

Appendix E

Comment Letters

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Appendix E

Responses to Comments
received during the comment period ending
in March 2008



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco CA 94105

DATE : *Oct. 2, 2006*

PAGES (Including Cover Sheet) : *4*

To : Name : *Naomi Feger*

Organization : *SF RB*

Office/Mail Code :

Fax Number : *510 - 622 - 2460*

Verification Number :

From : Name : *Susan Hatfield*

Mail Code *WTR-5*

Phone Number : *415 - 947 - 3520*

Fax Number : *415 - 947 - 3545*

NOTE :

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

SEP 29 2006

Naomi Feger
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: Draft Basin Plan Amendment and Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco Bay

Dear Ms. Feger:

EPA has reviewed the August 18, 2006 *Draft Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco Bay*. It is our understanding that the marine site-specific objectives that were developed for Puget Sound and incorporated into the draft Basin Plan amendment for San Francisco Bay were developed consistent with EPA methods, and we believe they are protective of the beneficial uses in the Basin Plan for San Francisco Bay. We do not have any substantive comments on these objectives at this time. It will, however, be necessary to consult with the USFWS and NOAA Fisheries concerning the effects on endangered and threatened species when we take our action on these amendments.

We have recently met with you and your staff to discuss our concerns in relation to the implementation of the proposed amendments. We appreciate the work that your staff has undertaken to modify the proposal in an effort to help resolve EPA's concerns. We do, however, continue to have concerns regarding the proposed mixing zones for shallow water dischargers as outlined below.

Beneficial Use Protection Within Mixing Zones

We are still concerned that this proposal could jeopardize beneficial uses within the mixing zones. The calculated mixing zone surface areas are quite extensive for most of the shallow water dischargers, and range from a median of 4.2 acres to the largest mixing zones for San Jose and Hayward Marsh of 41 acres. In general, we accept the staff report's conclusion that acute water quality objectives will be met within the mixing zones, and that the "main" body of the Bay will not exceed the site-specific objectives. However, we are concerned that given the extent of the mixing zones, aquatic organisms including swimming fish as well as drifting and sessile organisms are likely to live out their lives within these mixing zones. The chronic objectives were developed to protect organisms from chronic effects on a frequency of an average of 4 days once every 3 years. This proposal, however, would allow exceedences of the chronic objectives at all times within the mixing zones.

Attenuation vs. Dilution

The SIP, as well as EPA policy and regulation, allow for dilution credits, but do not present any procedures for calculating attenuation credits. The staff report asserts that "cyanide

is a pollutant that chemically degrades to harmless by-products in natural waters over time, as opposed to pollutants like elemental metals." (Page 1-1) However, we cannot find any scientific information in the staff report supporting this statement. Because cyanide is not elemental, we certainly agree that there may be more degradation than would occur with a metal. However, the staff report does not demonstrate the extent of the degradation of cyanide in Bay waters to "harmless by-products." In fact, the staff report's discussion of uncertainties surrounding industrial inputs of thiocyanate (page 5-34) underscores the need for a better understanding of the various cyanide-containing compounds that may not be accounted for in a total cyanide analysis. EPA is concerned that the process defined in the staff report as "attenuation" (a ratio of effluent cyanide values to values found in the ambient water column) may include a number of processes other than degradation to harmless by-products. For example, many of the by-products may not be harmless, and cyanide may potentially be adhering to sediment that is settling in the benthic zone.

Non-compliance with SIP

It is unclear whether the SIP requirements (page 15) for mixing zones have been met for all the mixing zones proposed. The SIP requires that each discharger complete an "independent mixing zone study" and that the mixing zone shall not "adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws." Additionally, the SIP requires that the mixing zone not "dominate the receiving water body." In the case of many of these discharges, the receiving water body is a slough tributary to the Bay, not the entire Bay.

To evaluate the overall acceptability of mixing zones, EPA's *Technical Support Document for Water Quality-based Toxics Control* suggests the use of a multi-step procedure, described in an EPA document entitled *Allocated Impact Zones for Areas of Non-Compliance*. (EPA 823-R-95-003) To determine whether the proposed mixing zones are appropriate, ecosystem information and other considerations as discussed in EPA's *Allocated Impact Zones for Areas of Non-Compliance* should be analyzed and discussed in the staff report.

Endangered Species Concerns

EPA is required to complete a consultation with the Federal resource agencies prior to approval of any state water quality standards action. EPA believes the mixing zones proposed in this document contain critical habitat areas for the threatened Central California Coastal steelhead and the endangered delta smelt. The staff report does not provide information regarding the behavior of these federally-listed species within the mixing zones, and whether exceedences of the chronic cyanide SSO will impact these species. At a minimum, the staff report should provide information for each discharge that explains compliance with the SIP requirement under 1.4.2.2 A, that a mixing zone shall not (3) restrict the passage of aquatic life, and (4) adversely impact biologically sensitive or critical habitats, including but not limited to, habitat of species listed under federal or State endangered species laws. This analysis is required by the SIP, but will also be critical to EPA's Endangered Species Act (ESA) consultation obligations.

Calculation Discrepancies

We do not understand the discrepancy between some outfall levels in Appendix D and the mean and maximum concentrations in Table 2 of Appendix C (i.e., for Fairfield-Suisun Sewer District.) Please explain the discrepancies between these two sets of numbers.

Our comments in this letter do not constitute an approval, disapproval or determination by EPA under Clean Water Act section 303(c) or 303(d). We will act upon any water quality standards following formal State adoption and submittal to EPA.

We look forward working with you on these issues in the future. If you have any questions, please do not hesitate to contact me at (415) 972-3420, Susan Hatfield at (415) 972-3520, or Nancy Yoshikawa at (415) 972-3535.

Sincerely,



Douglas E. Eberhardt, Chief
CWA Standards and Permits Office



SOUTH BAYSIDE SYSTEM AUTHORITY

JOINT POWERS AUTHORITY

A Public Entity

1400 Radio Road • Redwood City, California 94065-1220 •

650/591-7121

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City of Belmont

City of Redwood City

City of San Carlos

West Bay Sanitary District

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

September 27, 2006
13-80.3

RE: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin, Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay

Dear Mr. Wolfe:

The South Bayside System Authority (SBSA) is committed to the protection of San Francisco Bay and its beneficial uses. SBSA strives on a daily basis to improve the water quality of the bay through high quality and consistent treatment of over eighteen (18) million gallons of wastewater each day. SBSA supports the proposed site specific water quality objectives and the proposed Basin Plan Amendment which incorporates the Implementation Plan for Cyanide in San Francisco Bay.

SBSA commends the Water Board on the comprehensive analysis of the available site-specific information and the review and application of new national studies to the development of this proposed site specific objective for Cyanide. SBSA also commends the Board on its approach to the implementation of the cyanide objectives as effluent limits for deep water and shallow water dischargers, which is consistent with State and Federal laws and regulations.

The adoption of the National Toxic Rule (NTR) for specific pollutants is intended to protect the uses of the San Francisco Bay. In some cases, the NTR numbers are derived from analyses of sensitive aquatic species that are not resident in the San Francisco Bay. Such is the case for the species of *Cancer* crab used to determine the NTR number for Cyanide. SBSA specifically supports the basis of the Water Board's recalculation, the sensitivity of four (4) west coast crab species, which is consistent with the updated criteria for the Puget Sound. This action has been accepted by EPA and the State of Washington and is consistent with the approved EPA method for developing a site-specific objective.

San Francisco Bay Regional Water Quality Control Board
Attn: Bruce Wolfe, Executive Officer
September 27, 2006
Page 2

It is accurate to state that not all cyanide discharged by clean water agencies is free cyanide, however, free cyanide is the most toxic form. The lack of analytical tools that allow for speciation of cyanide has led the Water Board to the conservative assumption that all cyanide in wastewater effluent is free cyanide. It is our expectation that improvement in analytical methodology will result in the speciation of chemical substances so that the actual composition of cyanide species in wastewater effluent can be determined in the future and appropriate adjustments made to the Basin Plan.

Cyanide is not a persistent pollutant; it degrades and attenuates in the environment. We concur with the Water Board that accounting for this natural degradation of cyanide in surface water is critical to the development of the Basin Plan amendment and implementation plan for the site-specific objective. The NTR does not, and could not, account for this attenuation because the studies that brought this fact to light were conducted after the NTR was adopted. The Water Board proposal is therefore, based on more current, more scientific, and more importantly, site-specific information about the aquatic life in the San Francisco Bay and other western marine waters.

We are fortunate that the San Francisco Bay Regional Monitoring Program (RMP), along with SR Hansen and Associates studies, have provided additional information about ambient conditions in both shallow and open waters of the Bay. The studies indicate that cyanide is not present in harmful amounts, nor is there any indication of cyanide toxicity in the Bay. In the case of wastewater discharges into shallow water, the cyanide exhibited rapid degradation and decline in concentration and is not present at concentrations toxic to sensitive species.

Current NTR standards for cyanide are not achievable as final NPDES effluent limits for clean water agencies. The SIP requires that any new objective must provide reasonable protection of the beneficial uses and be in accordance with Federal and State laws and regulations. Data collected and analyzed within the studies cited in the Water Board staff report indicate there is no evidence of cyanide toxicity in the Bay and support a Basin Plan amendment to change the existing cyanide objectives for marine waters. SBSA considers it unreasonable and unnecessary to require the continued use of the NTR in the face of the new scientific information and the knowledge that widespread non-compliance will result.

The South Bayside System Authority is dedicated to protecting the waters of the San Francisco Bay and to the development of knowledge and information about effects of wastewater discharges. The requirements in the proposed Basin Plan amendment to implement a monitoring and a surveillance program are consistent with our goals.

Our industrial pretreatment and pollution prevention programs are very effective. We agree that a review of the sources of cyanide in our influent should be done every five

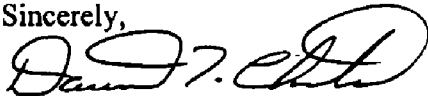
San Francisco Bay Regional Water Quality Control Board
Attn: Bruce Wolfe, Executive Officer
September 27, 2006
Page 3

years and other programs such as the detection of illicit discharges should include cyanide as a pollutant of concern.

The mandatory effluent limits proposed in the Basin Plan may lead to program inefficiencies in the future as clean water agencies will utilize resources to meet regulatory program requirements regardless of their overall impact toward pollution prevention. SBSA encourages the Water Board to include a program evaluation component into the Basin Plan. This language should require an adaptive management review and evaluation of this standard and the implementation of findings after 10 years. The purpose is to evaluate the effectiveness of these requirements and to determine if there is new scientific or water quality information which support revisions to the site specific objective.

We understand that developing a site specific objective is not required by either the CWA or the Poter Cologne Act; therefore, we appreciate the dedication exhibited by the Water Board to review new scientific information and to prepare this comprehensive analysis. SBSA believes this is an excellent example of what can result from directed investment in data, scientific inquiry and analysis. The long term protection of the San Francisco Bay and point source compliance with NDPES permits are the fortunate results of the Water Board staff's dedication.

Sincerely,



Daniel T. Child
Manager

cc: USEPA Region IX, Doug Eberhardt
SWRCB, Ken Harris



Central Contra Costa Sanitary District

5019 Imhoff Place, Martinez, CA 94553-4392

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September 28, 2006

SEP 29 2006

JAMES M. KELLY
General Manager

KENTON L. ALM
Counsel for the District
(510) 808-2000

ELAINE R. BOEHME
Secretary of the District

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

Dear Mr. Wolfe:

PROPOSED AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY BASIN, SITE SPECIFIC WATER QUALITY OBJECTIVES AND IMPLEMENTATION PLAN FOR CYANIDE IN SAN FRANCISCO BAY

The Central Contra Costa Sanitary District (CCCSD) is committed to protecting the San Francisco Bay and its beneficial uses. CCCSD supports the proposed cyanide site-specific water quality objectives and the proposed Basin Plan Amendment, which incorporates the Implementation Plan for Cyanide in San Francisco Bay.

The adoption of the National Toxic Rule (NTR) for specific pollutants was intended to protect the uses of the San Francisco Bay. In some cases these NTR numbers are derived from analyses of sensitive aquatic species that are not resident in the San Francisco Bay. Such is the case for the species of *Cancer* crab used to determine the NTR number for Cyanide.


CCCSD specifically supports the basis of the Water Board's recalculation of the site-specific water quality objective for cyanide, which accurately accounts for the sensitivity of four West Coast crab species. The recalculation is consistent with the updated criteria for the Puget Sound, which has been accepted by the EPA and the State of Washington, and is consistent with the approved EPA method for developing a site-specific objective.

Cyanide is not a persistent pollutant; it degrades and attenuates in the environment. CCCSD concurs with the Water Board that accounting for this natural degradation of cyanide in surface water is critical to the development of the Basin Plan amendment and implementation plan for the site-specific objective. The NTR does not account for this attenuation because the studies that brought this to light were conducted after the NTR was adopted. The Water Board proposal is therefore, based on more current, more scientific, and more importantly, site-specific information about the aquatic life in the San Francisco Bay and other western marine waters.

The San Francisco Bay Regional Monitoring Program (RMP), and the SR Hansen and Associates studies provide additional information about ambient conditions in the open waters of the Bay. These studies indicate that cyanide is not present in harmful amounts nor is there any indication of cyanide toxicity in the Bay. Data collected and analyzed within the studies cited in the Water Board staff report indicate there is no evidence of cyanide toxicity in the Bay and support a Basin Plan amendment to change the existing cyanide objectives for marine waters.

The development of the site-specific cyanide objective is an excellent example of what can result from the directed investment in data, scientific inquiry, and analysis. CCCSD firmly supports the Water Board Staff evaluation to revise the existing cyanide objectives for marine waters.

Sincerely,



James M. Kelly
General Manager

JMK/mvp

cc: Doug Eberhardt, USEPA Region IX
Ken Harris, SWRCB



Tri-TAC
Jointly Sponsored by:
League of California Cities
California Association of Sanitation Agencies
California Water Environment Association

September 29, 2006

Reply to: 813 Sixth Street, Third Floor
Sacramento, CA 95814
(916) 446-7979
blarson@lawssd.com

Via E-mail & First-Class Mail

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

SUBJECT: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin: Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay

Dear Mr. Wolfe:

The California Association of Sanitation Agencies (CASA) and Tri-TAC appreciate the opportunity to provide comments on the proposed amendment of the Water Quality Control Plan for the San Francisco Bay Basin to adopt site-specific water quality objectives and an associated implementation plan for cyanide. CASA and Tri-TAC are statewide organizations comprised of members from public agencies and other professionals responsible for wastewater treatment. Tri-TAC is jointly sponsored by CASA, the California Water Environment Association, and the League of California Cities. The constituency base for CASA and Tri-TAC collects, treats and reclaims more than two billion gallons of wastewater each day and serves most of the sewered population of California.

CASA and Tri-TAC support the proposed site specific water quality objectives and the proposed Basin Plan Amendment which incorporates the Implementation Plan for Cyanide in San Francisco Bay. We have identified the development of appropriate objectives and effluent limitations for cyanide as a top priority. We are concerned that implementation of the National Toxic Rule (NTR) criteria for cyanide as end-of-pipe effluent limitations may place public wastewater treatment agencies in noncompliance, yet there is no evidence that these levels are required to protect beneficial uses in all

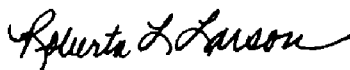
Mr. Bruce Wolfe, Executive Officer
San Francisco Bay Regional Water
Quality Control Board
September 29, 2006
Page 2

waters of the state. In some cases, the NTR criteria are derived from analyses of sensitive aquatic species that are not resident in the water body. Such is the case with San Francisco Bay.

Cyanide is not a persistent pollutant; it degrades and attenuates in the environment. We concur with the Regional Water Board that accounting for this natural degradation of cyanide in surface water is critical to the development of the Basin Plan amendment and implementation plan for the site-specific objective. The NTR does not account for this attenuation because the studies that brought this to light were conducted after the NTR was adopted. The Regional Water Board proposal is based on the most current scientific and site-specific information about the aquatic life in the San Francisco Bay and other western marine waters.

We commend the Regional Water Board for undertaking this process. The development of site specific objectives is an important tool to ensure appropriate standards for our state's waters. The proposed cyanide Basin Plan amendment is an excellent demonstration of how this process, involving rigorous science and water body specific data, can be successful in protecting both water quality and public resources.

Sincerely,



Roberta L. Larson
Director, Legal and Regulatory Affairs
CASA



Charles V. Weir
Chair
Tri-TAC

RLL/jp
CVW/jp

cc: USEPA Region IX, Doug Eberhardt
SWRCB, Ken Harris

City of Palo Alto
Public Works Department

September 29, 2006

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

Re: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin, Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay

Divisions

Administration
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Engineering
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Environmental
Compliance
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650.494.3531 fax
Equipment
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650.496.6958 fax
Operations
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650.852.9289 fax
Regional Water
Quality Control
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650.494.3531 fax


Dear Mr. Wolfe:

Thank you for the opportunity to comment on the proposed Site Specific Water Quality Objective and Implementation Plan for Cyanide in San Francisco Bay. The City of Palo Alto strongly supports adoption of the proposed Basin Plan amendment. As detailed in the Draft Staff Report proposing the site specific objective and implementation plan, there is no evidence of impairment of San Francisco Bay due to cyanide. Moreover, the National Toxics Rule criteria for cyanide that are currently in effect were derived using toxicity data for crab species not present in San Francisco Bay.

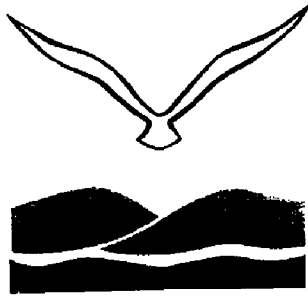
The City of Palo Alto operates a regional wastewater treatment facility that discharges an average of 25 million gallons per day of treated wastewater to Lower South San Francisco Bay. The concentrations of cyanide present in Palo Alto's effluent have been demonstrated to be a byproduct of chlorine disinfection. Despite our aggressive cyanide source control programs, Palo Alto will be unable to meet the projected final cyanide effluent limits if the site specific objective and implementation plan are not adopted.

The City of Palo Alto is committed to protecting San Francisco Bay, and we take special pride in the proactive leadership role that we have been able to assume with regard to pollution issues affecting the Bay. Most recently, our staff have led efforts to improve public awareness on the issue of proper management of unused and expired medications, and we are currently working with other Bay Area agencies to establish a long term regional medication takeback program. We credit your staff for conducting a thorough analysis in its preparation of the Draft Staff Report, and for proposing a resolution that continues to be protective of San Francisco Bay without diverting the finite resources of dischargers away from issues of greater concern.

Best regards,



Phil Bobel, Manager
Environmental Compliance Division



Bay Area Clean Water Agencies

Leading the Way to Protect Our Bay

A Joint Powers Public Agency

P.O. Box 24055, MS 702

Oakland, California 94623

October 2, 2006

Via E-Mail and First Class Post

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

RE: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin, Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay

Dear Mr. Wolfe:

BACWA supports the proposed site specific water quality objectives and the proposed Basin Plan Amendment which incorporates the Implementation Plan for Cyanide in San Francisco Bay. We specifically support the dilution zones for the shallow water dischargers and note that these are based on the updated and reviewed scientific information which tells us that there is not toxicity or harm to the Bay aquatic environment due to these effluent discharges.

The Bay Area Clean Water Agencies (BACWA) is committed professionally and as public agencies to protect the San Francisco Bay and its beneficial uses. The adoption of the National Toxic Rule (NTR) for specific pollutants was intended to protect the uses of the San Francisco Bay. In some cases these NTR numbers are derived from analyses of sensitive aquatic species that are not resident in the San Francisco Bay. Such is the case for the species of *Cancer* crab used to determine the NTR number for Cyanide.

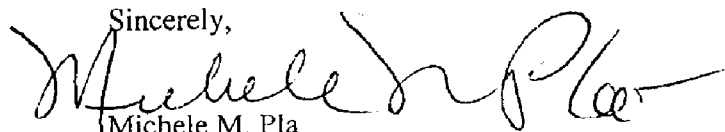
BACWA commends the Water Board on this comprehensive analysis of the available site-specific information and the review and application of new national studies to the development of this proposed site specific objective for Cyanide. BACWA also commends the Board on its approach to the implementation of the cyanide objectives as effluent limits for deep water and shallow water dischargers, consistent with State and Federal laws and regulations.

We have two major comments which we hope will be considered as the Water Board adopts this new objective and develops other objectives in the future:

1. It is our expectation that improvement in analytical methodology will result in the speciation of chemical substances so that the actual composition of cyanide species in wastewater effluent can be determined in the future. It is fair to say that not all the cyanide that is discharged by clean water agencies is free cyanide. Free cyanide is the most toxic form. The lack of analytical tools that allow for speciation of cyanide has led the Water Board to the conservative assumption that all cyanide in wastewater effluent is free cyanide.
2. The mandatory effluent limits proposed in the Basin Plan may lead to program inefficiencies in the future as the clean water agencies will utilize resources to meet regulatory program requirements **regardless** of their overall impact toward pollution prevention and water quality restoration. BACWA encourages the Water Board to include a program evaluation component into their Basin Plan language which will require an adaptive management review and evaluation of this standard and the implementation after 10 years. The purpose is to evaluate the effectiveness of these requirements and to determine if there is new scientific or water quality information which could support revisions to this site specific objective.

We understand that developing a site specific objective is not required by either the CWA or the Poter Cologne Act, therefore we appreciate the dedication exhibited by the Water Board to review new scientific information and to prepare this comprehensive analysis. BACWA believes that this is an excellent example of what can result from the directed investment in data, scientific inquiry and analysis. The long term protection of the San Francisco Bay and point source compliance with NDPES permits are the fortunate results of the Water Board staff's dedication.

Sincerely,



Michele M. Pla
Executive Director

Cc: USEPA Region IX, Doug Eberhardt
SWRCB, Ken Harris

Delta Diablo Sanitation District

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CALIFORNIA REGIONAL WATER

October 2, 2006

OCT 02 2006

QUALITY CONTROL BOARD

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

**SUBJECT: PROPOSED AMENDMENT TO WATER QUALITY CONTROL PLAN FOR
SAN FRANCISCO BAY BASIN, SITE SPECIFIC WATER QUALITY
OBJECTIVES AND IMPLEMENTATION PLAN FOR CYANIDE IN SAN
FRANCISCO BAY**

Dear Mr. Wolfe:

On behalf of Delta Diablo Sanitation District (DDSD), we are writing to encourage the Water Board to adopt the proposed site specific water quality objectives and the proposed Basin Plan Amendment which incorporates the Implementation Plan for Cyanide in San Francisco Bay. DDSD is a member of the Bay Area Clean Water Agencies (BACWA) group. DDSD understands that BACWA also fully supports the proposed amendment and implementation plan.

Cyanide is not a persistent pollutant; it degrades and attenuates in the environment. We agree with the Water Board that accounting for this natural degradation of cyanide in surface water is critical to the development of the Basin Plan amendment and implementation plan for the site-specific objective. The National Toxics Rule (NTR) does not account for this attenuation because the studies that brought this to light were conducted after the NTR was adopted. We believe the Water Board proposal is, therefore, based on more current, more scientific, and more importantly, site-specific information about the aquatic life in the San Francisco Bay and other western marine waters.

The San Francisco Bay Regional Monitoring Program (RMP), along with SR Hansen and Associates studies, have provided additional information about ambient conditions, both in the shallow and open waters of the Bay. These studies indicate that cyanide is not present in harmful amounts nor is there any indication of cyanide toxicity in the Bay. In the case of wastewater discharges into shallow water, the cyanide exhibited rapid degradation and decline in concentration and is not present at concentrations toxic to sensitive species.

One of our greatest concerns is that current NTR standards for cyanide are not achievable as final National Pollutant Discharge Elimination System (NPDES) effluent limits for clean water agencies. The State Implementation Plan (SIP) requires that any new objective must provide reasonable protection of the beneficial uses and be in accordance with Federal and State laws and regulations. Data collected and analyzed within the studies cited in the Water Board Staff Report

Mr. Bruce Wolfe, Executive Officer

October 2, 2006

PROPOSED AMENDMENT TO WATER QUALITY CONTROL PLAN FOR SAN FRANCISCO BAY BASIN, SITE SPECIFIC WATER QUALITY OBJECTIVES AND IMPLEMENTATION PLAN FOR CYANIDE IN SAN FRANCISCO BAY

Page 2

indicate there is no evidence of cyanide toxicity in the Bay and support a Basin Plan amendment to change the existing cyanide objectives for marine waters. As such, we feel it is unreasonable and unnecessary to require the continued use of the NTR in the face of the new scientific information and the knowledge that widespread non-compliance would result.

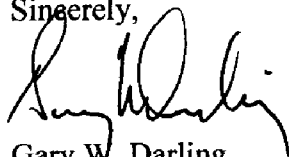
Our Industrial Pretreatment and Pollution Prevention Program is among the best in the Bay Area, recently receiving the Water Quality Excellence Award at the March 2006 Water Board meeting. We agree that a review of the sources of cyanide in our influent should be conducted every five years and other programs, such as for the detection of illicit discharges, should include cyanide as a pollutant of concern.

We also agree with BACWA that the mandatory effluent limits proposed in the Basin Plan may lead to program inefficiencies in the future as we could be forced to utilize resources to meet regulatory program requirements, regardless of their overall impact toward pollution prevention.

We understand that developing a site specific objective is not required by either the Clean Water Act or the Poter Cologne Act; therefore, we appreciate the dedication shown by the Water Board to review new scientific information and to prepare this comprehensive analysis.

For these reasons, DDS D encourages the Water Board to adopt the proposed site specific water quality objectives and the proposed Basin Plan Amendment which incorporates the Implementation Plan for Cyanide in San Francisco Bay.

Sincerely,



Gary W. Darling
General Manager

GWD/DFL:dcj

cc: Darrell Cain, Laboratory Director, DDS D
Dennis F. Laniohan, Operational Services Director, DDS D
Amanda Wong, Assistant Engineer, DDS D
Michele Pla, Executive Director, BACWA
Doug Eberhardt, Manager, NPDES Permits & Stormwater, Region IX, U.S. EPA
Ken Harris, Section Chief, TMDL Section, SWRCB
District File CORP.15.02-CORRES-21
Chron File



October 2, 2006

Post-it® Fax Note	7671	Date	10/2/06	# of pages	2
To	Naomi Fagerl Barbara Baginska	From	Dave Erablec		
Co.	RWOQB	Co.	City of Sunnyvale		
Fax #	510-622-2460	Phone #	408-730-7704		
		Fax #			

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

Re: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin, Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay

Dear Mr. Wolfe:

The City of Sunnyvale supports the proposed Basin Plan Amendments to establish Site-Specific Objectives and an Implementation Plan for Cyanide in San Francisco Bay. Sunnyvale commends the Water Board on the comprehensive analysis of the available site-specific information and its review and application of new national studies to the development of the proposed objectives. Sunnyvale also commends the Board on its approach to the implementation of the cyanide objectives as effluent limits for deep water and shallow water dischargers, an approach which is consistent with State and Federal laws and regulations.

The San Francisco Bay Regional Monitoring Program (RMP) has provided information about ambient conditions both in the shallow and open waters of the Bay. These studies indicate that cyanide is not present in harmful amounts, nor is there any indication of cyanide toxicity in the Bay. In the case of wastewater discharges into shallow water, the cyanide exhibited rapid degradation and decline in concentration, and is not present at concentrations toxic to sensitive species. Sunnyvale was one of several POTWs that participated in a regional study which demonstrated this rapid decline in receiving water concentrations.

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The current National Toxics Rule-based objectives for cyanide were derived from analyses of sensitive aquatic species that are not resident to San Francisco Bay. The NTR standards for cyanide are not achievable as final NPDES effluent limits for many dischargers, and, given studies that indicate no evidence of cyanide toxicity in the Bay, would represent an unreasonable burden on dischargers.

As a member of the Bay Area Clean Water Agencies (BACWA), Sunnyvale is dedicated to advancing knowledge of San Francisco Bay, and in particular the effects of wastewater discharges to the Bay. The requirements in the proposed Basin Plan amendment to implement a monitoring and a surveillance program are consistent with those goals. Sunnyvale takes pride in its industrial pretreatment and pollution prevention. Sunnyvale agrees that a periodic review of the sources of cyanide in our influent should be done every five years and that other source control programs such as the detection of illicit discharges should include cyanide as a pollutant of concern.

Sunnyvale believes that the mandatory effluent limits proposed in the Basin Plan may lead to program inefficiencies in the future, as agencies will apportion resources to meet regulatory requirements regardless of their overall impact toward pollution prevention. We therefore recommend that the Water Board include a program evaluation component into the Basin Plan language that would require an adaptive management review and evaluation of the revised objective and implementation mechanism after 10 years.

Sunnyvale wishes to express its appreciation for the dedication exhibited by the Water Board to review new scientific information and to prepare this comprehensive analysis. We believe that this is an excellent example of what can result from a collaborative approach and the directed investment in data, scientific inquiry and analysis.

Sincerely,

David A. Distie (for Lorrie Gervin)

City of Sunnyvale

Lorrie Gervin

Environmental Division Manager



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September 28, 2006

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

OCT 02 2006

QUALITY CONTROL BOARD

**RE: Proposed Amendment to the Water Quality Control Plan for the
San Francisco Bay Basin, Site Specific Water Quality Objectives and
Implementation Plan for Cyanide in San Francisco Bay**

Dear Mr. Wolfe:


Vallejo Sanitation and Flood Control District (District) supports the proposed site-specific water quality objectives and the proposed Basin Plan Amendment that incorporates the Implementation Plan for Cyanide in San Francisco Bay. In particular, the District supports the basis of the Water Board's recalculation using the sensitivity of four west coast crab species. The NTR number for cyanide was derived from analyses of sensitive aquatic species that are not resident in the San Francisco Bay.

Cyanide is not a persistent pollutant and the District agrees with the Water Board that accounting for this natural degradation of cyanide in surface water is critical to the development of the Basin Plan amendment and implementation plan for the site-specific objective. The Regional Monitoring Program (RMP) has provided additional information for ambient conditions both in the shallow and open waters of the Bay indicating that cyanide is not present in harmful amounts, nor is there any indication of cyanide toxicity in the Bay.

The current NTR standards for cyanide are not achievable as final NPDES effluent limits for our facility. The SIP requires that any new objective must provide reasonable protection of the beneficial uses and be in accordance with Federal and state laws and regulations. The Water Board's report indicates there is no evidence of cyanide toxicity in the Bay and supports a basin plan amendment to change the existing cyanide objectives for marine waters.

The District appreciates the efforts taken by the Water Board in reviewing all the information and preparing this comprehensive analysis.

Sincerely,


for Ronald J. Matheson
District Manager

Cc: USEPA Region IX, Doug Eberhardt
SWRCB, Ken Harris
Environmental Services
File



SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 11th Floor, San Francisco, CA 94103 • Tel. (415) 554-3155 • Fax (415) 554-3161 • TTY (415) 554.3488



October 2, 2006

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

RE: Proposed Amendment to the Water Quality Control Plan for the San Francisco Bay Basin, Site Specific Water Quality Objectives and Implementation Plan for Cyanide in San Francisco Bay.

Dear Mr. Wolfe:

The City and County of San Francisco Public Utilities Commission (SFPUC) appreciates the opportunity to comment on the proposed Basin Plan Amendment for Cyanide in San Francisco Bay. The SFPUC, under the National Pollutant Discharge Elimination System Permit Program, is permitted to discharge treated wastewater into San Francisco Bay for the Southeast Water Pollution Control Plant and the Bayside Wet Weather Facilities (NPDES Permit No. CA0037664). The SFPUC is dedicated to maintaining compliance with NPDES permit conditions and as a public agency member of the Bay Area Clean Water Agencies (BACWA) is committed to protecting and restoring the San Francisco Bay and its beneficial uses.

The SFPUC supports the proposed site-specific water quality objectives and the proposed Basin Plan Amendment that incorporate the Implementation Plan for Cyanide in San Francisco Bay. We support the concept that review and use of the most recent verifiable data available is necessary to determine water quality objectives to protect beneficial uses in San Francisco Bay, and support studies using species of organisms resident to San Francisco Bay rather than species of organisms that do not reside in the Bay.

As a member agency to BACWA, the SFPUC supports all comments contained within the BACWA letter submitted in support of the proposed Cyanide site-specific water quality objective and Basin Plan Amendment. The SFPUC commends the Water Board for detailed staff effort in preparing the background information for this amendment

Sincerely,

William Keaney
San Francisco Public Utilities Commission
Wastewater Enterprise
Planning and Regulatory Compliance Division

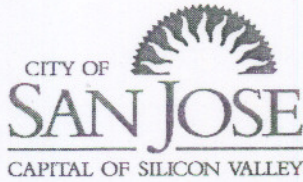
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October 2, 2006

OCT 05 2006

QUALITY CONTROL BOARD

Naomi Feger ✓
California Regional Water Quality Control Board
1515 Clay Street, Suite #1400
Oakland, CA 94612
510.622.2328 (ph.)
510.622.2460 (fax)
nfeger@waterboards.ca.gov

SUBJECT: Comments on Water Board proposal to establish new marine site-specific water quality objectives for cyanide in the San Francisco Bay

Dear Ms. Feger:

The City of San José (City) would like to thank the Regional Water Board for the opportunity to submit our comments on the proposed Basin Plan Amendment for Cyanide on behalf of the San José/Santa Clara Water Pollution Control Plant (Plant). The Plant provides wastewater treatment services to the cities of San José and Santa Clara, and other cities and agencies within its tributary area. These include the City of Milpitas, West Valley Sanitary District (Cities of Campbell, Los Gatos, Monte Sereno and Saratoga), Burbank Sanitary District, Cupertino Sanitary District (City of Cupertino), Sunol Sanitary District, and County Sanitation Districts #2 and #3. The Plant service area includes approximately 1.34 million residents and over 16,000 businesses in Silicon Valley.

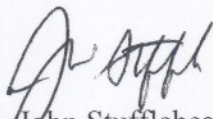
The City strongly supports the proposed Basin Plan Amendment and associated implementation plan. As noted in the Staff Report, unlike many other pollutants of concern, cyanide does not persist in the environment and has not been shown to negatively affect beneficial uses in San Francisco Bay. The proposed Basin Plan amendment will update the existing marine water quality objective with an objective that represents site-specific conditions of San Francisco Bay. The amendment further clarifies a regulatory implementation strategy for shallow-water dischargers, that involves the conservative use of dilution credits to account for cyanide attenuation that naturally takes place in the environment. These modifications allow shallow-water dischargers to be compliant with the revised water quality objective, while at the same time protecting the beneficial uses of the Bay.

To implement the revised water quality objectives, the Basin Plan proposes requiring cyanide effluent limits in the permits of all San Francisco Bay municipal and industrial wastewater dischargers. The proposed Basin Plan amendment language further clarifies the use of dilution credits specific to each shallow-water discharger that are used to calculate discharge limitations for cyanide. In addition, the proposed amendment language clarifies that municipal wastewater dischargers in South San Francisco Bay shall have effluent limits for copper and nickel.

The City recognizes the utility of requiring effluent limits in unique situations but wishes to express concern with this practice as mandatory limits could lead to potential programmatic inefficiencies in the future. Limits quickly lose utility once the contaminant of concern is no longer a threat to water quality or beneficial use protection. However, wastewater agencies may still be required to direct their resources toward pollution prevention and source control, regardless of their overall impact. For this reason, the City recommends that the Basin Plan language include a regulatory assessment component that would initiate a programmatic evaluation after a decade on implementation. This evaluation would determine the efficacy of mandatory effluent limitations, source control and pollution prevention activities, and the applicability of the revised water quality objectives.

The City of San José wishes to acknowledge the Regional Water Board's dedicated efforts to develop a cyanide water quality attainment strategy that both protects the beneficial uses of the San Francisco Bay and acknowledges the positive pollution prevention and wastewater treatment efforts of municipal shallow-water dischargers. The City of San José looks forward to working collaboratively with the Regional Water Board to address our comments and recommendations. If you have concerns, comments or questions on this correspondence please contact David Tucker of my office at 408-277-5695.

Sincerely,



John Stufflebean
Director, Environmental Services
City of San José

cc: Barbara Baginska
California Regional Water Quality Control Board
1515 Clay Street, Suite #1400
Oakland, CA 94612

SCIENTIFIC PEER REVIEWS:

1. **Scientific Peer Review by Professor David Sedlak, dated June 16, 2005**
2. **Scientific Peer Review by Professor John Dracup, January 31, 2006**

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June 16, 2005

Steve Moore
Planning Section Leader
Regional Water Quality Control Board
San Francisco Bay Region
15151 Clay St. #1400
Oakland, CA 94612

Dear Mr. Moore:

Attached please find my review of the document titled, "Technical Basis for Updated Cyanide Objectives for the San Francisco Bay Region". If you have any comments or questions, please do not hesitate to contact me by e-mail (Sedlak@ce.berkeley.edu) or by telephone.

Sincerely,

David L. Sedlak
Professor

cc: Brendan Thompson, SFRWQCB
David Jenkins

**Review of
Technical Basis for Updated Cyanide Objectives for the San Francisco Bay Region
David Sedlak**

The document explains proposed changes to the basin plan for the San Francisco Bay in response to concerns about the presence of cyanide in point source discharges. Site-specific standards are developed for cyanide by including new data on the toxicity of cyanide to four species of crab native to the west coast of the United States and attenuation factors for cyanide in shallow water discharges. The document describes the technical approach, the potential implications for aquatic species and alternatives considered in the analysis. The recommendations will result in a relaxation of the current standards and will require additional monitoring in San Francisco Bay to assure that cyanide concentrations fall within the acceptable range.

1. The site-specific criteria for cyanide were developed by substituting acute toxicity data for four species of crabs not originally included in the cyanide water quality criterion document for the Eastern rock crab. The recalculated values increase because the new crab species are less sensitive to cyanide than the Eastern rock crab. The approach used to recalculate the criteria has undergone peer review by one of the top scientific journals in the field of exotoxicology (i.e., *Environmental Toxicology and Chemistry*) and has been adopted by the State of Washington for Puget Sound. I was unable to find other scientific papers that indicated significant disagreement with this approach. I am not an expert in the field of ecotoxicology and cannot comment on the details of the toxicology studies. However, the fact that the paper has undergone peer review and review by the State of Washington and that other scientists have not expressed contrary opinions suggests that the site-specific criteria are reasonable for San Francisco Bay.
2. The document also describes the use of attenuation factors for cyanide in San Francisco Bay. The approach employs data on cyanide concentrations measured near the discharge points of wastewater treatment plants to account for the effects of dilution and transformation on cyanide concentrations. While I believe that the approach of using attenuation factors may have merit in this situation, I found the documentation of the attenuation factors included in the report to be inadequate. The explanation of the data and methods used for arriving at the specific values to be employed was unclear and the documentation needed to assess the quality of the science used to arrive at the values was not included in the report or the appendix. I spent a considerable amount of time trying to understand the data and believe that members of the public trying to understand the document would not be able to evaluate the document from the information provided in the draft report. For example, the report indicates that the attenuation factors used in the analysis were based on data from Artesian Slough and Coyote Creek as reported by the City of San Jose (p. 114 and 115). The data provided indicate a median concentration of 2.5 $\mu\text{g/L}$ in the outfall, which increases to 3.3 $\mu\text{g/L}$ before falling to 1.1 $\mu\text{g/L}$ and 0.5 $\mu\text{g/L}$ within 8.5 km. The report listed attenuation factors of 2.25 and 4.5 for these two observations, respectively. Using the formula included in the report, I obtained

attenuation factors of 2.27 and 5.0 for these two observations. There is no explanation of why the concentrations increased between the outfall and the first two observation points (experimental error? artifacts in the analytical method? Seasonal variation in flows?) nor are any of the sampling methods described (are these grab samples? 24-hour composites?).

The main scientific justification for using attenuation factors in lieu of dilution is that cyanide degrades in surface waters. The information provided in Appendix D cannot be used to assess the validity of this supposition because there has not been an attempt to discriminate between dilution and attenuation. Without some data to indicate that the concentrations decrease through some factor other than dilution, the attenuation factors seem like an alternative way of estimating dilution from empirical data. I doubt that the SFRWQCB would use this approach for a compound that is known not to degrade in surface waters. Therefore, it seems like the report needs address the issue of degradation more directly.

I presume that somewhere there is a report that provides more detail on the data included in Appendix D. I believe that this report would be strengthened considerably if such information were included in the appendix or in the main body of the report. In particular, I would like to see more information on the data used to generate attenuation factors in appendix D, the sampling program design and results (e.g., methods, sample types, actual data and not medians), the expected dilution at each sampling site based on hydrologic modeling and tracer studies, interpretation of uncertainty in data and estimated attenuation factors.

Specific comments on the report and suggestions for improvements are listed below:

3. Page 1-5, second sentence: "...are typically undetected at concentrations far below levels..." This sentence is confusing. I think the authors mean that cyanide is not detected even using methods with detection limits below levels that cause toxicity to marine organisms. Can the sentence be reworded?
4. Page 1-5: Page 3-12: second sentence. At pH 8.5 HCN accounts for about 90% of the free cyanide. This sentence implies all of the cyanide all of the free cyanide is protonated rather than most of the free cyanide.
5. Page 1-5, last paragraph: Thiocyanate has a negative charge (SCN^-).
6. Page 3-14: Table 2: AMEL and MDEL are never defined. Also, it would be easier if there were a page break and the whole table was placed on one page.
7. Page 3-22: What is "organically complexed cyanide"? How does an anion form a complex with an organic compound?
8. Page 4-37; fourth full paragraph: "disinfectants" is missing an s.

9. Discussion on impacts of chlorination and UV disinfection starting on page 4-38: The discussion on these pages appears to have implications for wastewater disinfection that are not addressed in the report. For example, the authors state that increasing the chlorine dose would have a benefit of destroying cyanide. What are the implications for a utility that decreased their chlorine dose (e.g., if the treatment plant used a small dose of chlorine to prevent fouling of filters but used UV for final disinfection)? Also, the report indicates that UV light can form significant amounts of cyanide. I think that it is important to mention that the UV conditions used in the referenced study were not necessarily intended to mimic those employed for wastewater disinfection and that the potential for cyanide formation during effluent disinfection is unknown. Also, the report cites the WERF report to justify some of the conclusions. WERF reports are often not readily accessible to the public. I suggest that you also include the relevant citations to the peer-reviewed literature (as you have already done in many places).
10. Page 4-40: There is a statement about ozone forming cyanide from thiocyanate. Either include a reference or delete the statement.
11. Page 5-42: In the third full paragraph there is a statement about the absence of cyanide in urban runoff. Please include a citation.
12. Page 5-44: The report states, “The 3.5 attenuation factor would establish more protective limits than the 4.5 attenuation factor while still providing POTWs with attainable effluent limits... For these reasons, 3.5 is the recommended attenuation factor...” This sounds as if the RWQCB is setting the attenuation factor to assure that the treatment plants don’t have to do anything to comply with the site-specific standard. I was under the impression that the attenuation factor was supposed to be set to protect the environment and not to assure compliance of the regulated discharges.
13. Table 15 seems to have some interesting information in it. It could use more explanation.

January 31, 2006

Moore, Steve (2005). Draft staff report on proposed site-specific water quality objectives and effluent limit policy for cyanide for San Francisco Bay Region. California Regional Water Quality Control Board, San Francisco Bay Region, November 10, 2005

A review by John A. Dracup, Ph.D., P.E.

Proposed in this WQCB report are three topics (see pages 1-9):

1. Adoption of the site-specific marine cyanide objectives for the protection of aquatic life uses in the San Francisco Bay Region.
2. Derivation and requirement of effluent limitations for deep water discharges based on procedures established in the State Water Board's "Policy for Implementation of Toxics Standards for Inland Surface Waters, enclosed Bays, and Estuaries of California (the State Implementation Plan or "SIP") using a dilution ratio of 10:1.
3. Derivation and requirement of effluent limitations for shallow water dischargers that consider cyanide attenuation in the Bay and provide reasonable protection of aquatic life uses of the Bay.

Using these proposed increases, a "Basin Plan amendment (BPA) will be proposed to:

1. Establish [and adopt] site-specific water quality objectives (SSO) for cyanide in the marine and estuarine waters of the San Francisco Bay Region. (see page 1-8 and page 1-10).
2. Establish a cyanide shallow water discharger effluent limitation policy, substituting an attenuation factor.....for the dilutions factor. (see page 1-10).

The existing and proposed cyanide objectives for marine and estuarine waters are presented in Table 1, page 3-16. Proposed is an increase in Cyanide Objectives for Acute Marine and Estuarine Waters of from 1 µg/L (National Toxic Rule) to 9.4 µg/L. This is a proposed increase in the cyanide objectives of 840%. Also proposed is an increase in Cyanide Objectives for Chronic Marine and Estuarine Waters of from 1 µg/L (National Toxic Rule) to 2.9 µg/L. This is a proposed increase in the cyanide objectives of 190%.

On page 1-8, it states that the "Recalculation of the U.S. EPA cyanide criteria, incorporating recent, peer-review toxicity data, suggests that the cyanide criteria should be made less stringent. This recalculation was recently used to adopt modified water quality standards for cyanide by the State of Washington for Puget Sound." The abstract of the key article for this recalculation is given below.

SITE-SPECIFIC MARINE WATER-QUALITY CRITERION FOR CYANIDE

Issn: 1552-8618

Journal: Environmental Toxicology and Chemistry

Volume: 19 Issue: 9 Pages: 2323-2327

Authors: Brix, Kevin V., Cardwell, Rick D., Henderson, Douglas G., Marsden, Arnold R.

Article ID:10.1897/1551-5028(2000)019<2323:SSMWQC>2.3.CO;2

Abstract—A site-specific marine water-quality criterion for cyanide was developed for Puget Sound, Washington, USA. The U.S. Environmental Protection Agency (U.S. EPA) national cyanide water-quality criterion is driven by toxicity data for the eastern rock crab, *Cancer irroratus*, a species not resident to the U.S. western coast (West Coast). The reported LC50 for *C. irroratus* is six times lower than any other marine species tested. Cyanide acute toxicity tests were conducted using first stage zoeae of all four species of *Cancer* spp. resident to Puget Sound to develop a site-specific criterion for this water body. Testing with Puget Sound *Cancer* spp. reveals sensitivities 24 times less, on average, than *C. irroratus*. Recalculation of the Puget Sound water-quality criterion for cyanide, by substituting the new *Cancer* spp. data for the *C. irroratus* data, results in water-quality criterion protecting marine life against acute and chronic toxicity of 9.4 and 2.9 µg/L cyanide, compared to the U.S. EPA national value of 1.0 µg/L for both acute and chronic toxicity.

I have the following concerns about this report and its conclusions:

1. This proposed change of 840% for acute cyanide objectives and 190% change for chronic cyanide objectives for marine and estuarine waters seems to be based on a single journal article published in August 2000 and referenced above. The four authors of this article appear to be employees of two consulting companies and an oil company. The companies are EcoTox, a North Bend, Washington consulting firm; Parametrix, a Kirkland, Washington consulting firm; and Shell Oil Co. of

Houston, Texas. There are no further studies or reports that collaborate the findings of this journal article. Furthermore, a search in the Scientific Citation Index indicates that this article has not been cited by a single author since its publication in 2000, indicating a lack of scientific import or credibility.

2. On page 3-16 of this CA WQCB report, the previous cyanide objectives for San Francisco Bay are described as 1.0 µg/L (4-day average), which was adapted by the "U.S. EPA under National Toxics rule in 1992..." These 1992 objectives "superseded the 1986 Basin Plan objective of 5.0 µg/L because it was more stringent..."

It seems to me that these cyanide objectives constitute a political football that goes into play when politicians feel that an end game might be successful. The U.S. EPA in 1985, under the Republican administration of Reagan, chose the 5.0 µg/L values; the Democrats under Clinton reduced the value to 1.0 µg/L; and now the Republicans again, under Bush, want to raise it to an even higher level of 9.4 µg/L.

3. On the last line of page 3-18 of this CA WQCB report it states that "...none of the twelve shallow water dischargers examined can achieve the projected NTR-based cyanide effluent limits." However, it is not stated why the POWTs cannot remove the cyanide from their discharge. A cursory review of the literature indicates that cyanide can be removed using Ion Exchange methods and Reverse Osmosis.

Two minor suggestions are to add a listing of all acronyms and a glossary of terms.

In conclusion, based on the rationale provided above, I cannot support the recommendations of this report to raise the proposed cyanide objectives for marine and estuarine waters to the levels indicated on Table 1, page 3-16. In fact, in reviewing the report and supporting literature, I came to the conclusion that the recommendation to alter the proposed cyanide level was not based on sound science.

Sincerely,

John A. Dracup, Ph.D., P.E.
Professor of the Graduate School
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Dept. of Civil & Environmental Engineering
University of California
Berkeley, CA. 94710-1710