

Appendix F

Transcript of October 11, 2006
Testimony Hearing
before the Water Board

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

WATER QUALITY CONTROL BOARD HEARING

OCTOBER 11, 2006

REPORTER'S TRANSCRIPT OF PROCEEDINGS
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CLARK REPORTING

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18 MR. WOLFE: Item 13 is a proposed plan and
19 amendment for San Francisco Bay for site-specific
20 objectives for cyanide in the Bay. So this, again, is the
21 public testimony. And I would like to ask Naomi Feger to
22 make the presentation along with Barbara Baginska.

23 MS. FEGER: Good morning, Chairman Muller and
24 members of the Board. My name is Naomi Feger, and I a
25 fairly-new section leader in the Planning-TMDL Division.

1 This is our first hearing on the proposed amendment to the
2 Basin Plan to revise the marine water quality objectives
3 for cyanide for San Francisco Bay.

4 I am going to introduce this item, and then Barbara
5 Baginska, who is passing out the handouts out here, she is
6 currently assisting our division through the San Francisco
7 Estuary Project. She will provide you with some technical
8 background on the development of the new water quality
9 objectives. I will then come back and discuss
10 implementation of the objectives and tell you about the
11 comments we have received.

12 As I said, today is the first of two planned
13 hearings on this proposed Basin Plan amendment. This
14 hearing is a testimony hearing. Development of
15 site-specific objectives for cyanide is a priority Basin
16 Planning activity that was identified in the 2004 triennial
17 review.

18 The process we followed here is similar to the
19 development of site-specific objectives for copper and
20 nickel in the South Bay which were adopted by the Board in
21 2002. These new objectives are based on the latest
22 available scientific evidence and reflect conditions in San
23 Francisco Bay. The proposed amendment includes
24 requirements for implementation. It also includes dilution
25 credits for cyanide to be used in the development of NPDES

1 permit effluent limits for 13 shallow-water dischargers
2 that discharge to San Francisco Bay. What are shallow
3 water dischargers? They are discharges for whom the Board
4 has granted an exception to the basin plan prohibition
5 restricting discharge into waters where there would be less
6 than a ten-to-one dilution. An example of a shallow-water
7 discharger is the San Jose/Santa Clara municipal wastewater
8 treatment plant. We anticipate coming back to the Board
9 for an adoption hearing in December.

10 MS. BAGINSKA: My name is Barbara Baginska. Today
11 I have an opportunity to present to you information about
12 water quality objectives for cyanide in San Francisco Bay.
13 I will be answering these questions. First, why do we need
14 site-specific objectives for cyanide? What is cyanide, and
15 where does it come from? I will then explain what is
16 involved in developing the new objective and provide some
17 background information on the current levels of cyanide in
18 San Francisco Bay and hopefully I will explain why we have
19 crabs as our presentation theme today.

20 So why are the site-specific objectives for cyanide
21 needed for San Francisco Bay? They are needed to adjust
22 the water quality objectives to tailor them to the
23 conditions in San Francisco Bay. Also the majority of
24 wastewater treatment plants and industrial wastewater
25 dischargers would not be able to comply with cyanide

1 effluent limits derived from the current water quality
2 objectives, and this is despite the implementation of
3 reasonable treatment, source control and pre-treatment
4 programs.

5 Water quality objectives for cyanide that are in
6 our Basin Plain are very low numbers, it is one part per
7 billion for both acute and chronic water quality
8 objectives.

9 And these objectives were derived from the -- these
10 objectives are the same as nationally-derived numbers for
11 cyanide. They were calculated based on a limited data set
12 which is highly influenced by one species of crab, the
13 Eastern Rock crab. Since the national objectives were
14 developed, new cyanide toxicity data are available that
15 reflect crab species that are resident in the San Francisco
16 Bay. Utilizing this more robust data set with local
17 species allows us to recalculate the water quality
18 objectives using state and federal guidance. This, in
19 turn, results in the site-specific objectives with more
20 scientific and regional validity.

21 So what do we know about cyanide? Cyanide is a
22 chemical compound that contains the cyano group which is
23 made up of carbon and nitrogen. There are many different
24 forms of cyanide available and not all of them are toxic.
25 The most toxic form is referred to as "free cyanide."

1 Because of its toxicity and history of use, cyanide has a
2 bad reputation. However, it is also a very useful
3 industrial chemical which is used in numerous applications.
4 And in Bay Area, cyanide is used mainly by metal and
5 electroplating industries, industries recycling industrial
6 solvents in photo finishing, metal finishing, and medical
7 and chemical labs.

8 As a point of interest, and not to say that it is
9 in any way a contributing source, I would like to mention
10 here that cyanide is the reason for the blue color in your
11 jeans and your blue-shaded eye shadow. Not surprisingly,
12 because of these many applications of cyanide, it is found
13 in wastewater treatment plant effluent.

14 We also commonly see cyanide levels in effluent
15 that are higher than those coming into the wastewater
16 treatment plant. Research has shown that this additional
17 cyanide is formed in wastewater treatment plants as a
18 byproduct of the disinfectant process and, in particular,
19 use of chlorine.

20 So how do we calculate the site-specific
21 objectives? There are three preferred methods recommended
22 by the USEPA that can be used to adjust water quality
23 objectives. We are applying one of these called a
24 recalculation procedure. This procedure is based on the
25 inclusion of the more recent west coast crab toxicity data

1 to the national data set and the removal of the one East
2 Coast crab species. This approach was also used in the
3 development of site-specific objectives in Washington state
4 for Puget Sound in 1997. These objectives were adopted by
5 the state and approved by EPA pending an endangered species
6 consultation.

7 This slide shows the existing and the recalculated
8 acute and chronic water quality objectives that are
9 proposing for San Francisco Bay. Our proposed Basin Plan
10 amendment would increase the acute objective from 1 to 9.4
11 micrograms per liter and the chronic objective from 1 to
12 2.9 micrograms per liter. The acute water quality
13 objectives established the highest concentration of a toxic
14 pollutant to which organisms can be exposed for a
15 short-term period of time and not experience mortality.

16 The chronic objective establishes the highest
17 four-day average concentration of a toxic pollutant to
18 which organisms can be exposed to without causing
19 unacceptable effects. We should also note that these
20 objectives have a margin of safety built into them. The
21 toxicity tests are conducted using free cyanide in the
22 toxic form. However, we measure all forms of cyanide when
23 we analyze the water sample not just free cyanide. And
24 some of these forms are much less toxic.

25 So what do we know about levels of cyanide in the

1 Bay? Fortunately, scientific evidence indicates that
2 cyanide does not bioaccumulate or persist in the
3 environment. In the aquatic environment cyanide is readily
4 metabolized by organisms or degrades rapidly due to natural
5 processes. So despite the existence of cyanide in
6 wastewater that flows into the Bay, data collected by the
7 Regional Monitoring Program show that cyanide levels in the
8 San Francisco Bay are at low concentrations. The levels
9 are so low that until more recent years cyanide could not
10 be detected using the standard analytical methods.

11 The most recent data analyzed using low detection
12 limits -- with low detection limits confirmed that cyanide
13 concentrations are below 0.4 micrograms per liter. The
14 detectable levels of cyanide have been measured close to
15 the outfalls of shallow-water dischargers, but generally
16 they do not -- these levels do not exceed the new
17 objectives we are proposing here.

18 MS. FEGER: Thank you, Barbara. To implement these
19 site-specific objectives we are proposing to do the
20 following: Require mandatory effluent limits for from
21 municipal -- all municipal industrial wastewater
22 dischargers to protect against the possibility of
23 degradation, allow the dilution credits for cyanide only
24 which will apply to shallow-water dischargers and to
25 require cyanide action plans in future permits.

1 The cyanide action plans reflect actions that will
2 be used to ensure that the current dischargers' performance
3 is maintained. These plans will also ensure compliance
4 with the state and federal anti-degradation policies. The
5 cyanide action plans will have two major components,
6 monitoring and surveillance and source control efforts.
7 Monitoring and surveillance includes having dischargers
8 analyze cyanide wastewater coming into the plant and
9 effluent levels that are leaving the plant.

10 Source control efforts include having each
11 discharger review sources of cyanide coming into their
12 plant. Where sources exist the discharger will have to
13 implement a local program to prevent illicit discharges.

14 I will tell you a little bit about the comments we
15 received. We received eleven comment letters by the close
16 of the public comment period. One of these letters was
17 received by e-mail, and it was not included in today's
18 board package. Barbara handed it out just a little while
19 ago. This letter was from the City of San Jose and
20 supports the development of the cyanide SSOs. The letter
21 will be included in the final package we prepare for the
22 next hearing.

23 Ten of the letters came from NPDES, wastewater
24 dischargers, or related associations. You can see them on
25 the slide. These letters were favorable to the Basin Plan

1 amendment, the proposed SSOs objectives, the use of
2 dilution credits and calculation of effluent limits.

3 The remaining letter came from the USEPA. The
4 USEPA commented favorably with respect to the proposed
5 cyanide site-specific objectives, stating that they are
6 consistent with their methods and protective of beneficial
7 uses of San Francisco Bay. The majority of their comments
8 addressed concerns regarding mixing zones associated with
9 the proposed dilution credits for shallow-water discharges.

10 A mixing zone reflects the portion of receiving
11 waters that are used to dilute discharges. We have been
12 working with EPA staff to resolve their concerns and to
13 demonstrate that application of dilution credits and
14 associated mixing zones will not result in adverse impacts
15 to biologically-sensitive or critical habitats as required
16 under the state implementation plan. We look forward to
17 continuing our dialogue with EPA to resolve their
18 outstanding issues.

19 So what are our next steps? We are going to be
20 responding to comments. We will revise the amendment and
21 the staff report as necessary, and we anticipate being back
22 for an adoption hearing this year in December. Thank you
23 very much, and we are happy to entertain any questions you
24 have.

25 MR. MULLER: Thank you. Excellent testimony. Good

1 job.

2 Michelle, thanks for your patience. Are you
3 pushing the chair? You have two cards. Do you think you
4 will get double the time or something? Actually, she's got
5 different titles here, so I guess she thinks she's trying
6 to play games here, but I caught it.

7 MS. PLA: No, I wasn't. I had a senior moment
8 where I thought perhaps I didn't turn a card in. So I was
9 cautious.

10 MR. MULLER: Michelle, you would never have a
11 senior moment.

12 MS. PLA: Good morning Chairman Muller and Board
13 members. My name is Michelle Pla. And I am the executive
14 director of the Bay Area Clean Water Agencies. Before I
15 continue my testimony I would like to take a moment to
16 thank you, Board Member De Luca, for your many, many years
17 of service. I know that sometimes there are -- probably
18 over your 12 years you probably thought, boy, this is a
19 thankless job. And I want to say to you very sincerely,
20 thank you. Pardon me?

21 MS. DE LUCA: I just will interject, I never
22 thought it was thankless. I just thought at moments it was
23 mind-numbing.

24 MS. PLA: Well, I never experienced that sitting
25 out here, though. But I do want to say that sitting out in

1 the audience over the many years and seeing you as a chair
2 and as a board member, one of the things I have admired
3 about you is the curiosity that you have had and the
4 questions that you have asked of people. And you have
5 always asked those questions with grace and respect. And
6 it is something that I have very much admired, and, again,
7 I want to thank you for all of those years of service.

8 The Bay Area Clean Water Agencies is joint power's
9 authority of the public wastewater agencies here in the San
10 Francisco Bay Area. We have 54 members. We are public
11 agencies, and all of our agencies are governed by elected
12 boards. I am before you today to strongly support this
13 site-specific objective for cyanide for the San Francisco
14 Bay. As you heard from your staff, this site-specific
15 objective is an updated -- updated information from the
16 National Toxic Rule which was adopted in 1985. We as a
17 society over the last 20 years-plus have invested in
18 developing better knowledge. And now we have that better
19 knowledge, better knowledge about cyanide, what it is, what
20 creates it and specifically better knowledge about the San
21 Francisco Bay and what is going on there. So we have this
22 opportunity to apply this better knowledge to our Bay and
23 to protect our Bay.

24 Not only is this a site-specific objective, then,
25 but it is also an objective that allows us to also make

1 sure that our clean water agencies can be in compliance.
2 So we are not looking at just adopting something to help
3 the clean water agencies, but also to apply, again, this
4 better knowledge, specific knowledge that we have about our
5 San Francisco Bay. We are very concerned that, again, the
6 shallow water dischargers, there is 12 of them. And
7 without this they cannot meet this -- the National Toxic
8 Rule Limit.

9 And some of those dischargers are what we would
10 consider the most progressive in the country,
11 Fairfield-Suisun, the City of San Jose, and, as you saw,
12 the City of Palo Alto. As you see in the letters that you
13 received, Palo Alto specifically says that without the
14 site-specific objective they cannot comply with their
15 cyanide objective.

16 This work -- and I want to commend the staff on the
17 excellent work they have done over the last few years to
18 develop the site-specific objective -- it is specifically
19 within the technology and methodology that is approved by
20 EPA to develop site-specific objectives. So this is not in
21 any way a back-sliding of our National Toxic Rule. It is
22 an update based on, again, our updated knowledge.

23 So in summary I want to say that BACWA strongly
24 supports this and we will be back here in December to ask
25 you to adopt it. Thank you.

1 MR. MULLER: Thank you, Michelle. Again, it goes
2 back to the classic example of everybody working so hard
3 with all of the parties to ensure that --

4 MR. ELIAHU: Mr. Chairman, may I say something?

5 MR. MULLER: Of course.

6 MR. ELIAHU: I just really want to commend staff
7 for all their tremendous work of the study here. The study
8 is very, very inclusive and it is very, very impressive.
9 And then I have a question again. How do you calculate the
10 dilution credit? How do you know how much water is going
11 to go in there in that body?

12 MR. MUMLEY: You want to know specifically or
13 generally, because there are unique situations for each of
14 the dischargers. But in general, the dilution credits are
15 developed from an empirical model, meaning we have actually
16 measured levels of cyanide in the vicinity of the discharge
17 to figure out what is the decrease in levels from distance
18 from the point of discharge that allows us to figure out
19 how much mixing is necessary to attain the objectives and
20 as such turn around and calculate what the dilution credit
21 would be relative to the resulting levels in the receiving
22 water.

23 MR. ELIAHU: So it is the distance from the
24 discharge?

25 MR. MUMLEY: Well, the concept of distance is

1 associated with the zone that is -- the area or the volume,
2 actually, the volume of the receiving water necessary to
3 adequately dilute the discharge such that the standard --
4 the water quality objective would be attained. So there is
5 ultimately an aerial or a distance measurement.

6 MR. ELIAHU: So what is that volume?

7 MR. MUMLEY: Well, it varies by all the discharges.
8 Actually, what we do have -- it is actually illustrated in
9 the staff report, I believe. Off the top of my head I
10 can't tell you.

11 MR. ELIAHU: Okay.

12 MR. MUMLEY: Am I not giving you a specific enough
13 answer?

14 MR. ELIAHU: No, because you have a discharge in a
15 body of water. You can say the whole body of water is one
16 volume, and therefore that is not a dilution. But I don't
17 know how it works. I don't know how it is calculated,
18 anyway.

19 MR. MUMLEY: We will have to because this is one of
20 the explicit issues that is raised by EPA to document --
21 causing us to better document how the dilution credit was
22 established for each of the dischargers effected, and,
23 unfortunately, there is not a simple one-size-fits-all
24 answer to give you, but we will simply give you that answer
25 in our report back to you.

1 MR. MULLER: I see the EPA caucus is nodding and
2 shaking their heads up there and bobbing and weaving, so
3 just keep on bobbing and weaving, EPA, because we will get
4 the right answer eventually to Shalom.

5 Yes.

6 MS. BRUCE: As monitoring technologies and the
7 analytical science has evolved, have we determined whether
8 or not cyanide compounds are actually created in the
9 aquatic environment like methylmercury is sort of created
10 in the aquatic environment? Does it -- is it a byproduct
11 of natural processes in some cases, or is all cyanide and
12 cyanide compounds the product of human actions in effluent?

13 MS. FEGER: There are natural cyanide compounds
14 that are created in the environment. Plants create cyanide
15 compounds as sort of a natural biocide. I think the
16 aquatic environment, the information that we have available
17 to us is showing that cyanide that is discharged from
18 wastewater treatment plants pretty much is broken down. It
19 degrades rapidly. It is metabolically processed by
20 organisms, so we don't expect it to be resident in the
21 environment.

22 MS. BRUCE: I was just wondering if there were any
23 natural signals, so even from a diluted sample at some
24 distance from a point of discharge, if your sample could
25 potentially be picking up a natural background amount of

1 cyanide compounds that could be the result of some
2 biological or aquatic processes, in addition to those
3 things being discharged.

4 MS. FEGER: Not to our knowledge.

5 MS. BRUCE: Okay. Thanks.

6 MS. BRUCE: If it is there it's all because of us.

7 MR. MUMLEY: In fact, we are seeing the opposite.
8 We are seeing a rapid decline in the level of cyanide as
9 you move away from the discharge.

10 MS. BRUCE: I was just wondering if there were any
11 natural breaks that were out there or it is all from us.
12 And I am hearing that it is all from us and then it goes
13 away.

14 MR. MULLER: Thank you. Any other discussion of
15 this for information again, correct?

16 MR. WOLFE: Right. We anticipate, as you heard,
17 being back after we have reviewed comments and worked with
18 EPA and Shalom. We will be back to you in December.

19 MR. MULLER: Good. Thank you.

20 Thank you for your presentation. I believe this is
21 the first time you presented before. You did an excellent
22 job also. Congratulations.

23 MR. WOLFE: Yes. You may not recall when we
24 introduced Barbara many months back, but she was working
25 for under a contract supported through the Clean Estuary

1 partnership and the Estuary Program.

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REPORTER'S CERTIFICATE

I, Joanna Broadwell, Certified Shorthand Reporter No. 10959 in and for the State of California, hereby certify that the foregoing is a full, true and correct transcript of the proceedings to the best of my ability.

Date: _____

Joanna Broadwell CSR # 10959