

U.C. Davis, Bodega Marine Laboratory

The Bodega Marine Laboratory submitted 80 comments on the draft NPDES permit (Order No. R1-2008-0002) in a letter dated January 25, 2008. The majority of the comments identified errata, requested clarification, or requested minor changes to the draft Order. The following are Regional Water Board staff responses to substantive comments provided by the Bodega Marine Laboratory and responses to requests for permit changes that were not granted:

Comment 1: Acute Toxicity Testing Requirements. The Discharger explains that chronic toxicity tests are more accurate and sensitive than the acute toxicity tests and including requirements for both acute and chronic tests in the draft Order is redundant. The Discharger also asserts that State Board Resolution No. 2007-0058 states that only chronic toxicity tests are required for Discharge Point EFF-001, Discharge Point EFF-016, RSW-001 and REF-001. The acute test is prescribed only for the annual sediment sample at Horseshoe Cove.

Response: Resolution No. 2007-0058 (Page 5, paragraph n) states that the seawater effluent and reference station must be analyzed for "...all Ocean Plan Table B constituents, pH, salinity, and temperature." Because Table B of the Ocean Plan includes both acute toxicity and chronic toxicity, acute toxicity monitoring must be required in the Order to be consistent with Resolution No. 2007-0058. However, the Resolution and the draft Order give the Regional Water Board the discretion to determine whether acute toxicity will be monitored for the remainder of the permit term. Based on the results of the first year of acute toxicity monitoring, Regional Water Board staff may recommend elimination or reduction in the frequency of acute toxicity monitoring.

Comment 2: Dry Weather Chronic Toxicity Tests. The Discharger states that the purpose of sampling at Horseshoe Cove (RSW-001) is to assess the impact of Bodega Marine Laboratory's storm water discharge on receiving waters and the dry weather monitoring requirements prescribed in the draft Order will not provide information to make this assessment because the storm water discharge is not occurring at this time.

Response: Regional Water Board staff agrees. The requirement for dry weather chronic toxicity testing at RSW-001 has been removed.

Comment 3: Monitoring Frequency for Copper, Cadmium, and Silver. The Discharger asserts that the evidence (elevated monitoring results from February and April 2006) used by Regional Water Board staff as the basis for determining affirmative reasonable potential, establishing water quality-based effluent limitations, and requiring quarterly monitoring of copper, cadmium, and silver is unreliable. In light of this unreliable line of evidence, the Discharger requests that the permit allow reduced sampling (to twice per year) after low levels of these constituents in the seawater discharge are confirmed during the first year of sampling. The Discharger also questions the accuracy of the statement in the permit Fact Sheet that the Bodega Marine Laboratory discharge is a potential source of elevated levels of cadmium and copper found in mussel flesh in samples at the Bodega Head Mussel Watch Station. The Discharger notes that the Mussel Watch Station is one mile south of the Bodega Marine Laboratory and there are numerous more likely sources of these contaminants closer to the Mussel Watch Station than the Bodega Marine Laboratory.

Response: Regional Water Board staff has considered the relevant body of evidence and determined that there is not sufficient justification to invalidate the February and April 2006 results for cadmium, copper, and silver. However, in acknowledgement of the possibility that these results were erroneous, the tentative Order has been revised to reduce the monitoring frequency from quarterly to twice annually after four quarters of monitoring data have been collected (Table E-4, footnote 2 of the Monitoring and Reporting Program). If subsequent data indicates that there is no reasonable potential for these toxic pollutants to be in the effluent at levels that exceed water quality objectives, staff has the ability to propose that the Regional Water Board remove effluent limits for these constituents. Conversely, if monitoring data demonstrate the presence of any of these pollutants at a level exceeding water quality objects, the Regional Water Board may increase the monitoring frequency.

Regional Water Board staff agrees that Bodega Marine Laboratory is not a likely source of cadmium and copper in results from the Bodega Head Mussel Watch Station. The tentative Order Fact Sheet (section IV.C.3.b, page F-19 to F-21) has been revised to discuss the new information provided by the Discharger in this comment.

Comment 4: Accommodation for Imprecise Measurement of Total Suspended Solids.

The Discharger requests modification of the effluent limitations for total suspended solids for the seawater system to account for variability of naturally occurring suspended solids in the seawater system intake and to account for analytical imprecision in Standard Method 2540D for total suspended solids. The Discharger proposes an alternative method that would calculate the effluent limitation using a standard deviation from the mean of the concentrations of suspended solids in the seawater intake and effluent.

Response: When the Regional Water Board establishes effluent limitations in permits, it is with the understanding that, in determining compliance with the limitation, it must rely on instrumentation to conduct pollutant-specific numerical measurements from samples collected from the waste stream. Implicit in this approach is the acknowledgment that there is imprecision related to the analytical method and there may be variability of the pollutant in the waste flow. As a result, it can be expected that there is a range of error that extends above and below the intermediate value. As with any distribution, there will be some measurements at the high end of the error band and some at the low end no matter how precise the test or how low the variability of the pollutant in the waste stream. The question is whether this variation is excessive.

In the draft Order, the variability of the suspended solids concentration in the influent and effluent samples from the seawater system has been reduced by requiring composite sampling or grab samples collected separately and composited later for analysis. Composite sampling is the sample collection method recommended by the *U.S. EPA NPDES Permit Writers' Manual* (EPA-833-B-96-003) when the material being sampled varies significantly over time. Sample compositing may be performed manually or automatically be a dedicated sampling device.

The test method for total suspended solids, described in Method 2540D, *Standard Methods for the Examination of Water and Wastewater*, was promulgated by the U.S. EPA in 40 Code of Federal Regulations Part 136. By promulgating a method in 40 CFR 136, the U.S. EPA has demonstrated that the observed variability in the test measurement is not excessive. In addition, it would not be appropriate to account for method imprecision in the

effluent limitation for total suspended solids in the NPDES permit because any methodology would allow an exceedance of the numerical limit, which is contrary to the intent and practice of current guidance and regulations. Finally, the Discharger has not demonstrated how recalculating the effluent limitation will protect water quality and is not backsliding, as prohibited by sections 402(o) of the Clean Water Act and section 122.44(l) of title 40 of the Code of Federal Regulations.

Discussions with staff of the State Water Resources Control Board who worked on the Bodega Marine Laboratory exception to the prohibition on discharges to Areas of Special Biological Significance have indicated that they would not be supportive of changing the method for determining TSS compliance. For the above reasons, we cannot support the changes requested.

Comment 5: Prohibition A.1 Omission. The Discharger identifies apparent omissions in Prohibition A.1 on page 12 and page F-14 of the draft Order that would result in a substantial change to the Discharger's understanding of this discharge prohibition.

Response: The omissions in Prohibition A.1 have been corrected.

Comment 6: Effective Dates for Monitoring Periods. The Discharger requests that the beginning dates for the "Twice Annually" and "Annually" monitoring periods in Table E-13 of the Monitoring and Reporting Program be changed to the effective date of the Order. The Discharger also requests clarification of the "Twice Annually" monitoring period with respect to wet weather sampling, and a modification of the "1X/Order Term" monitoring period in Table E-13 to reflect the effective date of the Order and the 2012 date to submit the application for renewal of the NPDES permit.

Response: The beginning dates for the "Twice Annually" and "Annually" monitoring periods in Table E-13 of the Monitoring and Reporting Program have been changed to May 1, 2008. The monitoring periods to satisfy "Twice Annually" monitoring have been changed to May 1 through October 31 and November 1 through April 30.

To satisfy permit requirements for "Twice Annually" monitoring (one dry weather and one wet weather sample), the Discharger should collect a sample from each 6-month period. To satisfy requirements to collect two wet weather samples per year (for storm water discharges to the freshwater marsh at Discharge Points EFF-003 and EFF-004), the Discharger may collect both samples during a single monitoring period provided that both samples are collected from October 1 through May 30, which is the defined "wet season" by the general Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (State Water Board Water Quality Order No. 97-03-DWQ).

The beginning date for the "1X/Order Term" Table E-13 of the Monitoring and Reporting Program has been changed to April 25, 2008. The monitoring period to satisfy "1X/Order Term" monitoring has been changed to April 25, 2008 through September 30, 2012 to allow the Discharger to submit monitoring results with its permit renewal application.

Comment 7: Waste Field Sampling and Dilution Credits. The Order indicates that some water quality samples can be collected within the "waste field" after initial dilution with receiving waters is completed. The Discharger requests clarification about which water quality constituents are eligible for waste field sampling.

Response: The second sentence in section V.A referring to an “area within the waste field where initial dilution is completed...” is misleading and has been corrected in the draft Order. Resolution No. 2007-0058 (page, 3, paragraph 2.a) states that “Natural water conditions in the receiving water, seaward of the surf zone, must not be altered as a result of the discharge.” Therefore to comply with the exception, water quality objectives must be met at the end of pipe.

State Water Resources Control Board

The following are responses to comments submitted to the Regional Water Board by the State Water Resources Control Board on January 25, 2008:

Comment 1: Compliance with the Ocean Plan Table B Instantaneous Maximum. It would be inappropriate to assess compliance with the Ocean Plan Table B Instantaneous Maximum using the 8-hour Composite method proposed in the Draft Permit. There are two methods which may be used to assess compliance with Table B, either a grab sample may be used to assess compliance with the Instantaneous Maximum, or a flow weighted 24 hour composite sample may be used to assess compliance with the Table B Daily Maximum.

Response: The draft Order has been revised to require composite sampling for Ocean Plan Table B constituents with provision made for the compositing of grab samples of volatile Table B constituents. Grab samples are required to assess compliance with the Instantaneous Maximum, in accordance with the Ocean Plan.

Comment 2: Analytical Test Method for Ocean Plan Table B Metals. It is recommended that EPA 200.8 analytical test method be used for metals analysis instead of the EPA 200.7 method proposed in the Draft Permit.

Response: Resolution No. 2007-0058 (Page 4, paragraph d) states that the acceptable method for metals analysis for seawater effluent, storm water effluent, reference samples, and receiving water samples is “the approved analytical method with the lowest minimum detection limit (currently Inductively Coupled Plasma/ Mass Spectrometry) described in the Ocean Plan.” Therefore, the tentative Order has been revised to specify, for Table B metals analyses, EPA Method 1640, Total Trace Metal Analysis in Seawater.

Comment 3: Ocean Plan Definitions. It is noted that the draft Order contains a 'Definitions' section using much of the Ocean Plan definitions. It is recommended that the Implementation Provisions for Table B Appendix III of the Ocean Plan be included in the Permit.

Response: Comment and recommendation noted. Regional Water Board staff will forward the recommendation to the State Water Board Ocean Standards Unit for its consideration for the next revision of the permit template for Ocean Plan-based NPDES permits.