

STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Richard Looker)  
MEETING DATE: June 13, 2007

**ITEM:** 8

**SUBJECT:** **Proposed Amendment to the Water Quality Control Plan (Basin Plan) to Establish Site-Specific Copper Water Quality Objectives (SSOs) and Implementation Plan for San Francisco Bay - Hearing to Consider Adoption of the Proposed Basin Plan Amendment**

**CHRON-  
OLOGY:** March 2007 – Public Notice of Proposed Basin Plan Amendment  
May 2007 – Hearing to Receive Testimony on Proposed Basin Plan Amendment

**DISCUSSION:** At this hearing, the Board will be asked to adopt a Resolution (Appendix A) amending the Basin Plan to establish site-specific marine water quality objectives (SSOs) for copper for San Francisco Bay, north of the Dumbarton Bridge. We will discuss revisions to the Basin Plan Amendment (Appendix B) and supporting documentation that were made in response to stakeholder comments received during the comment period, and comments raised by Board members at the testimony hearing held in May. Additional documentation in this package includes our revised Staff Report (Appendix C), Responses to Comments (Appendix D), copies of all written comments received during the public comment period (Appendix E), and the transcript of the May testimony hearing (Appendix F).

The proposed Basin Plan amendment will establish the following:

- Chronic and acute SSOs to replace the existing California Toxics Rule objectives (3.1 µg/L chronic, and 4.8 µg/L acute). The proposed SSOs for Suisun Bay, San Pablo Bay, Central Bay, and Lower Bay north of the Hayward Shoals are 6.0 and 9.4 (µg/L chronic / acute), and, for the portion of Lower Bay south of the Hayward Shoals, are 6.9 and 10.8.
- Defined ratios of total to dissolved copper (translators) for calculating effluent limits for wastewater sources discharging to deepwater portions of the Bay.
- A Bay-wide implementation strategy to ensure attainment of the copper SSOs. This strategy includes required studies to address technical uncertainties and control measures for major sources of copper (urban runoff, wastewater treatment facilities, lagoons, and marine anti-fouling coatings).
- An ambient water quality monitoring program designed to detect small changes in dissolved copper concentrations in the Bay that may trigger additional aggressive control measures.

The proposed SSOs are based on the same state and federal guidance and policy for developing SSOs that was followed in 2002, when the Board adopted copper SSOs for Lower San Francisco Bay. The state Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California allows for consideration of SSOs when: permit limits based on existing water quality objectives are not attainable, current objectives are not appropriate for the water body, and there is no evidence of adverse water quality impacts. All these conditions are met for copper in

San Francisco Bay. The proposed SSOs were derived using U.S. EPA-approved procedures that take into account the fact that copper toxicity to aquatic organisms is less in San Francisco Bay than in the laboratory water testing conditions that are the basis for the existing objectives. This reduced toxicity is due to the presence of dissolved carbon molecules that bind dissolved copper, making it unavailable for uptake by aquatic organisms. Even if copper is taken up by aquatic organisms, it does not tend to bioaccumulate because of its chemical properties.

During the public review period that closed on April 16, 2007, we received four comment letters. Those letters included comments from U.S. EPA, Bay Area Clean Water Agencies, the Copper Development Association, and the City of San Jose.

We have responded to all of the issues raised by the public via minor changes in the Basin Plan amendment and by enhancing the supporting documentation. We addressed concerns regarding the details of requirements to conduct studies on copper sediment toxicity and sublethal effects on salmonids by clarifying what is expected of dischargers. To address Board members' concerns with potential changes in future Bay conditions affecting the SSOs and the fate and effects of particulate copper, we have included language in the amendment that calls for recurring evaluation of the SSOs along with Regional Monitoring Program data for dissolved organic carbon, copper in sediment and sediment toxicity to ensure the SSOs are protective of beneficial uses.

**RECOMMEN-  
DATION:** Adopt the Resolution.

**APPENDICES:**

- A. Tentative Resolution with Exhibit A, Proposed Basin Plan Amendment
- B. Proposed Basin Plan Amendment showing changes since March 2, 2007
- C. Supporting Staff Report
- D. Responses to Comments
- E. Comment Letters
- F. May 9, 2007, Hearing Transcript