Bay Area Clean Water Agencies
BACWA

Mercury Total Maximum Daily Load (TMDL) and the New Water Quality Objectives (WQO)

On August 9, 2006, the San Francisco Bay Regional Water Quality Control Board (Water Board) approved the San Francisco Bay Mercury TMDL and new water quality objectives for mercury in the Bay.

- The Water Board first adopted the Mercury TMDL in September 2004
- The State Water Resources Control Board Remanded the TMDL to the Water Board in September 2005
- The Water Board heard testimony on the revised TMDL in June 2006
- The Revised Final TMDL was adopted on August 9, 2006

In response to the State Water Resources Control Board's Resolution, which remanded the TMDL to the Water Board, the revised TMDL focused almost entirely on the municipal wastewater agencies. The most significant change to the TMDL is a new waste load allocation for municipal wastewater which requires:

- A 20% reduction over ten years (an interim allocation) from the original 17kg/yr as a aggregate allocation to 14kg/yr; and,
- A 33% reduction over 20 years from the original 17kg/yr to 11 kg/yr.

Individual allocations reductions were made to all facilities to add up to the overall aggregate mass load reduction for the "class" of municipal wastewater. Consistent with the remand resolution, the facilities that demonstrated good performance were acknowledged in the revised TMDL. Advanced treatment facilities were not required to reduce mass loading by more than 20% over the 20 year period. Treatment facilities with dischargres of .01kg/yr mass or less from the Cities of Burlingame and Calistoga for example, were not given any reductions in loading from the baseline year of 2003.

BACWA provided extensive comments to the Water Board and specifically stated that clean water agencies mean to employ pollution prevention to comply with the interim (10 year) 20% reductions. To comply with the final reductions of 33% (which for many secondary facilities is actually a 40% reduction or greater) will require a pollution offset program and other cost effective approaches. BACWA has stated that investment in expensive capital facilities to reduce the Bay wide loads by 3 kg/yr is not cost-effective. The intent of the Water Board staff is to rely on adaptive management techniques and to review and revise the TMDL as appropriate at the ten-year mark. If at that time it appears an offset program is not feasible, the clean water agencies will ask that the TMDL, the final allocation, and compliance date be revised and increased.

The TMDL has three levels of control over municipal wastewater facilities:

1. A mass and a concentration trigger which must both be met; if not, a report must be submitted which includes an:
   a. evaluation of the cause
   b. evaluation of the effectiveness of P2, and pretreatment
   c. evaluation of the feasibility of treatment enhancements
2. Individual mass allocations for each discharge. This allocation will be enforced only if the aggregate is exceeded.
3. Aggregate load allocation for the class of municipal wastewater.

The effluent triggers for secondary treatment facilities are a daily maximum of 0.065 ug/l of total mercury and a monthly average of 0.041ug/l total mercury. For advanced treatment facilities the daily maximum is 0.021 ug/l total mercury and the monthly average is 0.011ug/l total mercury.

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The TMDL requires continued and enhanced pollution prevention in response to the remand resolution as well as contributions to our shared knowledge about mercury and methlymercury discharges and localized and Bay wide impacts.

BACWA agrees with the Water Board that a Bay-wide dental amalgam reduction program is the best candidate for enhanced P2. The watershed permit will likely contain a requirement to implement dental amalgam programs in 85% of the region's dental offices within five years.

It is expected that watershed permits will require applicants to:

- update treatment technology assessment
- develop and implement mercury risk reduction for humans and wildlife who eat fish from the Bay
- monitoring level of methylmercury in dischargers (BACWA has already begun this effort through a 13267 letter issued last summer)
- conduct or cause to be conducted studies to better understand the fate, transport, and biological uptake of mercury in the San Francisco Bay and tidal areas
- conduct or cause to be conducted studies on local impacts of discharges.

Some of these requirements will best be implemented on a regional basis. For example, BACWA is already a partner in a collaborative research project with the Water Environment Research Foundation to estimate mercury bioaccumulation potential from wastewater treatment plants in receiving waters.

Fish Tissue Water Quality Standard for the Bay

The Water Board also approved to two new water quality standards for the San Francisco Bay (marine water standards). These standards are implemented by the TMDL wasteload allocation. The human health standard is 0.2 mg mercury per kilogram of fish tissue as measured in edible portions of fish; and, the aquatic and wildlife standard is 0.03 mg mercury per kilogram of fish as measured in whole fish 3-5 cm in length.

Approval of the TMDL and Development of a Watershed Permit

The Environmental Protection Agency (EPA) has stated that they agree with the new waste load allocations for municipal wastewater and the new fish tissue standards for the San Francisco Bay. Both the EPA and the non-governmental organization, however, were concerned that the aggregate load allocations were not consistent with the requirement to have an individually enforceable water quality-based effluent limit (WQBEL) in NPDES permits. In the response to comments, the Water Board clearly stated that these standards are individually enforced, as are the triggers. It is likely that this issue will come up again at the State Water Resources Control Board (SWRCB).

At this time, it is expected that the Mercury TMDL and the new Mercury WQOs will be scheduled at the SWRCB as early as March. If the Mercury TMDL is approved by the State, the Office of Administrative Law and the EPA must also approve the TMDL and WQOs before they are final and can be part of NPDES permits.

Since the summer of 2004, BACWA has been discussing with the Water Board the implementation of the Mercury TMDL through a watershed wide permit, especially in light of the aggregate wasteload allocation and the potential for offsets. When such a permit is developed by the Water Board, BACWA will review it to ensure it is consistent with the TMDL.

SWRCB Proposes Offset Policy

The Resolution which remanded the TMDL also included a clause which resolved that the State, in coordination with the Bay and Central Valley Regions, would develop a policy for alternative methods for dischargers to meet effluent limits. The Resolution specifically states that the policy shall "not include requirements that would leverage existing point sources discharges as a means of forcing dischargers to bear more than their fair share of responsibility for causing or contributing to any violation of water quality standards." The Resolution defines "fair share" as "dischargers' proportional contribution to the impairment."

In January 2007, the SWRCB has issued a draft Offset Policy. A workshop on potential the environmental impacts of the Offset Policy is the first step in the review and modification of this policy. BACWA will participate in this process and help develop formal comments.

Stayed Tuned to BACWA Blast E-Mails for Updates on Mercury TMDL, Watershed Permit and Offset Policy.