



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
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WATER QUALITY DIVISION

Mr. Dan Eden, Deputy Director
Office of Permitting, Remediation and Registration (MC-122)
Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Eden:

The Environmental Protection Agency (EPA) has completed its review of the request for site-specific marine copper criteria, which was submitted to EPA for review and approval, as required by 40 CFR §131.20. The site-specific criteria apply within a portion of Segment 1701-Victoria Barge Canal Tidal, a classified, tidally-influenced waterbody which has a designated high aquatic life use. EPA guidance allows states to develop site-specific criteria for waters for which default water quality criteria may not be appropriate.

The Dow Chemical Company (Dow) Seadrift chemical plant (TPDES No. 00447) manufactures organic chemicals, plastics and industrial gases and discharges treated waste to the Victoria Barge Canal Tidal, Segment 1701 of the Lavaca-Guadalupe Coastal Basin in Calhoun County. Due to the water quality characteristics of the discharge from the Dow Chemical Company Seadrift plant, a water effect ratio (WER) study was performed (using laboratory water and 9% effluent as the site water) to determine if site-specific water quality criteria for copper would be more appropriate than the state-wide copper criteria.

Our review of the WER study indicates that the State of Texas' marine acute and chronic water quality criteria for copper may be adjusted to account for site-specific physical and chemical interactions, which mitigate the toxicity of copper to marine organisms. The methodology used to determine the site-specific criteria is consistent with EPA's WER guidance for metals and with the previously-approved WER provision in §307.6(c)(9) of the *Texas Surface Water Quality Standards* (TX WQS), adopted July 26, 2000. From the study, a final WER of 1.806 was calculated from the geometric mean of two individual WERs derived from toxicity tests conducted on a mysid (*Americamysis bahia*).

Because EPA has not completed review of the new and revised standards in Table 1 of the 2000 TX WQS, the marine copper criteria in the 1997 TX WQS are currently effective for CWA purposes. Based on the study performed, the 1997 TX WQS criteria for copper, and the resulting WER of 1.806, site-specific acute (29.38 $\mu\text{g/L}$) and chronic (7.89 $\mu\text{g/L}$) water quality criteria have been demonstrated as appropriate to protect aquatic life. These site-specific criteria only apply at the edge of the mixing zone for outfall 002 of this facility and will be incorporated into Appendix E of the TX WQS at the time of the next triennial revision. The mixing zone for this facility is defined as a volume within a radius of 182 feet from the point of discharge. For

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CWA purposes, the WER of 1.806 may also be multiplied by the statewide copper criteria in Table 1 of the 2000 TX WQS to establish site-specific criteria since the statewide copper criteria in the 2000 TX WQS are more stringent than in the 1997 TX WQS. The high aquatic life use for Segment 1701-Victoria Barge Canal Tidal has not been revised. The statewide criteria in Table 1 of the 1997 TX WQS apply to the remaining parts of the Victoria Barge Canal Tidal¹.

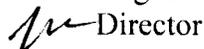
The approval of these site-specific copper criteria is subject to the results of consultation under section 7(a)(2) of the Endangered Species Act (ESA). Section 7(a)(2) requires that federal agencies, in consultation with the Services, insure that their actions are not likely to jeopardize the existence of federally listed species or result in the adverse modification of designated critical habitat of such species. As of today, this consultation has not been completed. EPA initiated consultation on the site-specific copper criteria by submitting a biological evaluation to the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) under section 7(a)(2) of the ESA on August 30, 2006. By approving the standards "subject to the results of consultation under section 7(a)(2) of the ESA," EPA retains the full range of options available under CWA section 303(c) for ensuring that water quality standards are environmentally protective. EPA retains the discretion to revise its approval decision if the consultation identifies deficiencies in the water quality standards that require remedial action. If the TPDES permit for this facility is reissued prior to completion of ESA consultation on the site-specific criteria, a re-opener clause must be included to ensure that effluent limitations can be adjusted if changes are made to the site-specific copper criteria based on the results of the ESA consultation.

If you should have any questions, please call me at (214) 665-7101 or have your staff contact Melinda Nickason at (214) 665-8059.

Sincerely yours,



Miguel I. Flores



Director
Water Quality Protection Division

cc: Michael Pfeil, TCEQ - Water Quality Assessment Section (MC-150)

¹ With the exception of the mixing zone for Air Liquide America, Inc.'s discharge (TPDES No. 03943) into Victoria Barge Canal (approximately 10-15 miles upstream of the Dow discharge) for which site-specific copper criteria were approved in November 2005.