



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 18 2010

OFFICE OF  
WATER

**SUBJECT:** Final National Pollutant Discharge Elimination System (NPDES)  
Test of Significant Toxicity (TST) Implementation Document

**FROM:** James Hanlon, Director  
Office of Wastewater Management

**TO:** Water Division Directors, R1-10

The purpose of this memorandum is to transmit to you a copy of the final guidance document, "National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document" (EPA 833-R-10-003). This document provides an additional recommended statistical approach for analyzing WET test data used for whole effluent toxicity (WET) reasonable potential determinations and NPDES permit compliance.

EPA developed the TST approach to provide an additional scientifically valid, statistical application for assessing WET hypothesis test data. The TST assesses the measurement of toxic impacts from effluent on specific test organisms' ability to survive, grow, and reproduce and is based on research and peer-reviewed publications. The TST examines whether there is a biologically significant difference defined as the measured difference which has a detrimental effect on aquatic organisms to thrive and survive when compared against the normal condition (i.e., a control). Using a WET test, this biologically significant difference is the comparison between an effluent's in-stream waste concentration (IWC), as specified in the permit, and the control. The TST recommendations advance the applied science of the NPDES WET Program by addressing both the false negative and false positive error rates which have been a concern for both permitting authorities and permittees. We believe the TST approach addresses these false negative and positive concerns and provides an incentive to NPDES permittees to provide valid, high quality WET test data to enhance NPDES WET reasonable potential and permit compliance determinations.

The TST document was externally peer reviewed according to EPA's requirements and after addressing the peer review comments the document was sent out to EPA Regions and States for their review. Comments received from EPA Regions and States were addressed and, where appropriate, revisions were incorporated into the final document.

The TST approach does not preclude the use of existing recommendations for assessing WET data provided in EPA's 1991 Water Quality-based Technical Support Document (TSD) which remain valid for use by EPA Regions and the States.

To compliment your understanding of the attached final TST document, we have scheduled a second webcast on Wednesday, July 14, 2010, from 1:00 to 2:00 P.M. (EST). This webcast will provide an introduction to TST, including an overview of its scope and context; how the TST should be implemented; advantages of the TST over other statistical approaches; and conceptual examples demonstrating the TST application. Please watch for an E-mail with additional details about how to participate in the webcast. If you have questions, please contact Laura Phillips ([phillips.laura@epa.gov](mailto:phillips.laura@epa.gov), 202-564-0741) of my staff.

Attachment (1)

Cc: Mark Pollins, WED/OCE/OECA  
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