



# Bay Area Clean Water Agencies

Leading the Way to Protect Our Bay

A Joint Powers Public Agency

P.O. Box 24055, MS 702

Oakland, California 94623

**U.S. Environmental Protection Agency  
Water Docket in the EPA Docket Center  
Mail Code 4101T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460**

**Attention Docket ID No. OW-2004-0037**

**Subject: Draft National Whole Effluent Toxicity (WET) Implementation  
Guidance Under the NPDES Program**

Bay Area Clean Water Agencies (BACWA) has the following comments regarding the Draft Implementation Guidance, EPA 832-B-04-003, released by the United States Environmental Protection Agency on December 28, 2004.

Background

The membership of the Bay Area Clean Water Agencies (BACWA) is comprised of governmental agencies in the San Francisco Bay area that are leaders in urban water resource management and public stewardship of the Bay water quality. BACWA members own and operate publicly owned treatment works (POTWs) that discharge to the water of the San Francisco Bay Estuary. Together, BACWA's members serve over 5 million people in the nine county Bay Area counties, treating all domestic, commercial and a significant amount of industrial wastewater. BACWA was formed to develop a region-wide understanding of the watershed protection and enhancement needs through reliance on sound technical, scientific, environmental and economic information and ensure that this understanding leads to long-term stewardship of the San Francisco Bay Estuary. Many BACWA agencies perform acute and chronic WET testing in accordance with their NPDES permits issued by the San Francisco Bay Regional Water Quality Control Board.

Comments

BACWA appreciates the opportunity to review and provide input on the Draft Guidance. Implementation of WET requirements in NPDES permits is an important issue for BACWA agencies, and we appreciate the Agency's efforts to develop a consistent and scientifically sound approach to WET issues. BACWA welcomes several aspects presented in this guidance, including:

1. the fact that EPA states in several sections of the document that States have substantial discretion in determining how to implement WET limits into permits

2. the use of an increased amount of data to make decisions, and the allowance of adequate time to collect such data
3. the application of reasonable potential analysis to WET testing
4. the concept of a step-wise approach to testing, including accelerated testing to confirm toxicity

These recommendations will help ensure that adequate, high-quality data will be used and interpreted in an implementation scheme appropriate to the discharge and receiving water. However, BACWA objects to several elements that conflict with these goals. In summary, these are:

1. the application to WET testing of numeric limits as defined in CTR as daily or weekly maximums and monthly averages
2. repeated strong recommendations to States to implement EPA procedures for the sake of national consistency
3. the concept that a violation of permit limits occurs when as little as one toxic event occurs, even when the discharger is taking every step available and following guidance to determine the source of the toxicity
4. the use of Toxicity Units (TUs – generally defined by results of hypothesis testing) to determine compliance
5. the fact that a single test result could result in a compliance violation, a concept that is not supported by EPA technical experts

These are discussed in detail below.

#### **1. Application of numeric limits to WET testing**

The NPDES regulations at 40 CFR 122.45(d)(2) require that all permit limits be expressed, unless impracticable, as both an average monthly limit and an average weekly limit for POTWs. This guidance states that AWLs are not appropriate for WET testing and that AMLs be expressed as monthly averages in most situations and medians in low-flow situations. In the SF Bay area, current limits for acute WET testing are established in the SF Basin Plan and are defined as an 11-sample median of 90% survival and an 11-sample 90<sup>th</sup> percentile of 70% survival, further defined in NPDES permits as:

“11-sample median limit: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or fewer bioassay tests also show less than 90 percent survival.

90<sup>th</sup> percentile limit: Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or fewer bioassay tests also shows less than 70 percent survival.”

These acute limits hold true for both deep-water and shallow-water dischargers, thereby eliminating dilution credits for all dischargers. In addition, dischargers in

the SF Bay area are required to perform acute tests using a stringent flow-through testing regime. The RWQCB has interpreted the application of EPA criteria to this situation to mean that new limits would be expressed as “maximum daily limitation = minimum of 70% survival; monthly median limitation – minimum of 90% survival...”

Most POTWs in the San Francisco Bay region perform tests on a monthly or less-frequent basis. Testing frequency is determined based on extensive monitoring prior to and under the issuance of NPDES permits. If monitoring has shown no evidence of toxicity, the discharger is allowed to reduce monitoring frequency. It is unclear how the proposed limits apply to a single test conducted over a five-day period in a month. However, one could conclude that any single test performed could result in a compliance violation of the weekly or monthly limit, which is contrary to recommendations from EPA’s technical experts and is fundamentally unsound, given the inherent variability associated with WET testing.

The SF Regional Water Quality Control Board concluded, upon review of EPA recommendations, that the Basin Plan approach to compliance determination is more applicable to flow-through systems than the US EPA-suggested approach. BACWA concurs and strongly argues that the application of daily or monthly numeric limits to WET testing does not apply, given the nature of the testing and commonly prescribed monitoring frequencies.

## **2. State Implementation of EPA Recommendations**

The Draft Guidance provides that the permitting authority has flexibility in determining the appropriate approach for assessing the need for WET limits. However, on numerous occasions in the Guidance, EPA appears to mandate that States adopt EPA’s recommended implementation strategies and uniform approach for determining Reasonable Potential (RP).

One aspect of the application of this Guidance is that small dischargers who currently do not conduct WET testing may be required to collect an abundance of WET data, even when there is no reason to believe the discharge is causing toxicity and no permit limits are currently in place. This is not consistent with NPDES priority pollutant monitoring and is also not substantiated by a national toxicity problem (i.e., the resources that would be expended do not correlate to an existing environmental problem).

Another aspect of the national application of this guidance is that successfully implemented NPDES programs would have to be abolished. As stated above, SF Bay area POTWs monitor using flow-through tests, the most sensitive testing regime available for acute monitoring. The permit limits are the most stringent available as well (70% and 90% survival regardless of dilution of discharge). To compensate for this testing “sensitivity,” compliance is evaluated over an 11-sample moving data set. To apply monthly, weekly, or daily limits to this already sensitive testing regime would require more extensive monitoring and result in a

high propensity for false positives, resulting in additional monitoring and resources. If proposed EPA limits are to be applied, the entire program would need to be re-defined in terms of testing regimes and testing frequencies, when the local program has been implemented and functioning successfully for many years.

An example of a needlessly inflexible EPA provision is the recommendation that a discharger show at least 20 non-toxic test results to obtain a decrease in testing frequency. This requirement would be burdensome and is unnecessarily inflexible. Instead of mandating inflexible limits and testing requirements, EPA should adhere to the basic principle of State determinations and provide States the flexibility to determine monitoring provisions and schedules on a case-by-case basis.

### **3. Numeric limits in a Step-Wise Process**

Although EPA presents a step-wise approach for establishing appropriate WET effluent limits, this approach appears to eliminate the flexibility associated with WET requirements that have been outlined in other EPA guidance and court decisions. For example, EPA suggests having accelerated monitoring and TRE triggers in place to investigate failed toxicity tests. However, EPA still views the initial failed test as a violation and conducting follow-up tests and toxicity evaluations/identifications (TRE/TIEs) would neither constitute compliance nor preclude enforcement. BACWA strongly supports the premise that dischargers adhering to the step-wise process in a timely and proficient manner as defined by their NPDES permit should be in compliance with WET limits.

The recommended accelerated monitoring approach is explicitly spelled out to involve at least six additional tests bi-weekly over a twelve-week period, beginning within two weeks of the first exceedance of a WET limit or a numeric monitoring trigger. It would seem that this approach is recommended to establish persistent toxicity, however the Guidance is not consistent in this regard. According to the guidance “the permit should require that, if the results of any one of the six additional toxicity tests exceed the limit or numeric monitoring trigger, the permittee implement corrective actions identified in a TRE.” However, this statement is contradicted later in the guidance when it is stated that “the number of tests and duration of testing should be adequate to establish the presence of continued toxicity in order to perform a TRE.” This is important to point out because it is necessary to determine persistence of toxicity before a TRE can be successfully implemented. USEPA has stated that expecting a TIE to immediately follow a single or infrequent event of WET noncompliance is unrealistic (USEPA, *Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program*. Office of Wastewater Management. Office of Regulatory Enforcement. March 27, 2001). EPA should add language to the guidance that encourages permit writers to design a step-wise process, including accelerated testing procedures to identify persistent toxicity, in order to successfully conduct a TRE.

#### 4. **The Use of Toxicity Units (TUs) to Determine Compliance**

Although the Guidance states that TUs can be defined using hypothesis testing or point-estimates, EPA misses an opportunity to re-emphasize the recommendations from technical experts that point-estimates be used for compliance determinations. The Guidance continually refers to hypothesis testing and how to apply hypothesis test results appropriately. The Technical Support Document (TSD), the Final Rule, and EPA testing methods all recommend the use of point estimates. The TSD states that the IC25 is the preferred statistical method for determining the no-observable-effect-concentration. Yet this Guidance remains biased towards the use of an overly-conservative hypothesis-test statistical approach. In the San Francisco Bay area, dischargers have been successfully defining TUC as 100/IC25 for many years and believe this point-estimate derivation to be more appropriate than hypothesis testing derivations, especially when determining RP and compliance.

#### 5. **Single-Test Compliance Violations**

As stated in our first point above, it is possible under the proposed Guidance to violate permit conditions with a single bioassay result below prescribed limits. BACWA is concerned that the probability that an NPDES-permitted toxicity limit would be exceeded due to factors other than plant toxicity is very high. Dr. Don Mount, a pioneer of WET testing, wrote in 1998 in "Midcourse Corrections in WET Testing Program" that "WET testing has been challenged for a variety of test results, in large measure because of the single exceedance violation requirement in the NPDES regulations." He argues to "allow permittees to average test values rather than relying on a single test." BACWA argues strongly against the application of limits that would put a discharger at risk of noncompliance when there is no change in effluent quality.

Thanks again for the opportunity to provide comments on this draft guidance document.

Sincerely,



Michele Pla  
Executive Director

Cc: Jim Kelly, Water Chair CASA  
Ben Horenstein, Water Chair Tri-Tac  
Norm LeBlanc, Water Issues Chair, AMSA