



## IMPLEMENTATION OF SUBLETHAL WHOLE EFFLUENT TOXICITY REGULATORY PROGRAM

### ISSUE

The U.S. Environmental Protection Agency (EPA) is requiring the Texas Commission on Environmental Quality (TCEQ) to implement unnecessary and expensive permit requirements for sublethal whole effluent toxicity (WET) limits. This will require Texas cities and river authorities to spend millions of unnecessary dollars. EPA cannot demonstrate a benefit to the environment for this requirement, or even demonstrate that it is an achievable requirement.



### BACKGROUND

EPA developed the WET test, in which aquatic organisms are exposed to treated wastewater effluent, to determine whether the organisms are adversely affected. Effects can be lethal (death) or sublethal (impaired growth or reproduction, for example). While there is evidence that tests demonstrating significant lethality can be indicative of adverse effects on aquatic life in receiving waters, there is no evidence that sublethal test failures in the laboratory are indicative of similar impacts in the environment.

In addition, studies to determine how to eliminate WET test failures, when only sublethal effects are present, have not been successful in eliminating these test failures. Unsuccessful and inconclusive studies can result in expensive corrective actions being implemented that do not result in permit compliance.

In 2009, EPA was asked, through a Freedom of Information Act request, to provide information that (1) documented a relationship between sublethal WET test failures and impacts on aquatic life in receiving waters and (2) documented that permittees could identify the cause of sublethal WET test failures and implement corrective actions that would eliminate test failures. None of the information provided by EPA demonstrated that such a relationship exists or that permittees could reasonably expect to be able to take corrective actions that would eliminate test failures.

### CONCLUSION

EPA does not have a technical basis to support its position that sublethal WET permit limits are needed to protect the environment or that studies to identify and eliminate the causes of WET test failures are practical when only sublethal effects are exhibited. Implementation of sublethal WET permit limits exposes communities to unnecessary expense without a demonstrated environmental benefit.



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### EXAMPLES OF CONCERNS

The results of studies to eliminate WET test failures are frequently ambiguous. Corrective actions are often expensive and do not always eliminate the test failures. Some examples are as follows:

- 💧 **GRAND STRAND WATER AND SEWER AUTHORITY, SOUTH CAROLINA**, operates the George R. Vereen North Regional Wastewater Treatment Plant which serves a residential area of approximately 30,000 people. The Authority spent close to \$250,000 on studies but could not identify the cause of WET test failures. Currently, the Authority is taking bids on a pipeline to a water body that will provide more dilution in order to avoid the problem in the future. The estimated cost of the pipeline is \$1.3 million.
- 💧 **LYMAN, SOUTH CAROLINA**, population 2,800, had a specific industry that was concluded to be the cause of WET test failures. The industry shut down, but the effluent continued to fail WET tests. Lyman has been working on trying to eliminate WET test failures since 2002.
- 💧 **WAGENER, SOUTH CAROLINA**, is a town of 800 people. Over the last 5 years, it has spent approximately \$100,000 in studies to try to eliminate sublethal WET test failures but been unable to do so. Therefore, in order to solve the problem, the town is constructing a land disposal system at a cost of approximately \$2 million to eliminate effluent discharge.
- 💧 **REIDSVILLE, NORTH CAROLINA**, a town of approximately 15,000 people, began working to eliminate WET test failures in the late 1980s and achieved compliance in 2000. In order to achieve compliance, the town required industries to change process chemicals, revised pretreatment requirements, built a five-mile pipeline to discharge to a larger water body that provided more dilution, upgraded the treatment process to activated sludge, and added powdered activated carbon as a treatment component. <sup>(1)</sup>
- 💧 **YAKIMA, WASHINGTON**, required fruit packers to change the chemicals that they used. However, WET test failures were not eliminated.

### REQUEST

A coalition of Texas cities and river authorities requests support for its position opposing EPA's implementation of an overly restrictive regulatory program based on the sublethal WET test unless the following requirements can be met:

- 💧 The frequency and magnitude of effluent sublethal test failures that are a meaningful predictor of adverse impacts on aquatic life in the receiving waters are identified.
- 💧 It can be demonstrated that there are reliable scientific methods that permittees can use to identify and eliminate the cause of sublethal test failures.

Texas cities and river authorities are committed to protecting the water resources of the State for the benefit of their residents. However, with limited public funds available, those funds should be expended for programs with demonstrated benefit and feasibility.

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