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Office of Pesticide Programs (OPP)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, DC 20460
Attn: Docket ID Number EPA-HQ-OPP-2009-0773

Docket No. EPA-HQ-OPP-2009-0773 – Clean Water Act and Federal Insecticide, Fungicide, and Rodenticide Act Common Effects Aquatic Life Assessment for Pesticides Using Available Data: Regional Stakeholder Meetings

Tri-TAC appreciates the opportunity to submit written comments on the Clean Water Act and Federal Insecticide, Fungicide, and Rodenticide Act Common Effects Aquatic Life Assessment for Pesticides Using Available Data (74 FR 61679). Tri-TAC also provided verbal comments at the January 22, 2010 Regional Stakeholder Meeting in Oakland, CA. As background, Tri-TAC is a technical advisory group for publicly owned treatment plants (POTWs) in California. It is jointly sponsored by the California Association of Sanitation Agencies, the California Water Environment Association, and the League of California Cities. The constituency base for Tri-TAC collects, treats, and reclaims more than two billion gallons of wastewater each day and serves most of the sewered population of California.

Over the years, various pesticides have been implicated and identified as the source of multiple Clean Water Act water quality impairments. With protective aquatic life water quality criteria established for only a few of these compounds, the majority of these pesticide impairments were identified through regulatory-mandated acute and chronic toxicity testing programs. The costs to POTWs associated with these impairments have exceeded millions of dollars.

Aquatic Toxicity Testing

Although aquatic life toxicity testing is required in the pesticide registration and registration review processes, data using the more pesticide-sensitive species and endpoints are generally lacking. For example, a review of registrant generated invertebrate sensitivity data will reveal the majority of their testing is being conducted using the less sensitive Daphnia genera as opposed to the more sensitive Ceriodaphnia dubia. Tri-TAC recognizes that it is impractical, if not impossible, to conduct laboratory toxicity testing on every relevant species. Therefore, the limited testing conducted as part of the pesticide registration and registration review processes should focus on the more sensitive species and exposure endpoints in order to be a useful surrogate representative of the diverse ecosystem.

Requiring, at a minimum, chronic toxicity species sensitive screening consisting of the fathead minnow (Pimephales promelas) seven-day survival and growth test, Ceriodaphnia dubia seven-day survival and reproduction test, and four-day green algae cell density test is not overly burdensome or financially costly. In fact, the majority of National Pollutant Discharge Elimination System (NPDES) dischargers are required to conduct similar screenings annually. Chronic toxicity testing with these three species is conducted nationally and internationally. These methods have been fully evaluated and promulgated in 40 CFR Part 136 and are a required monitoring component of nearly all U.S. dischargers. The cost associated with such a screen ranges from $3,000 to $4,500. In addition to this minimum testing, toxicity testing with other species should also be considered on a case-by-case basis. For example, it has been well established in the literature that the amphipod Hyalella is particularly sensitive to pyrethroids. Additionally, consideration of required toxicity testing using sensitive marine or sediment species may also be warranted.

Failure to require such minimal testing has shifted the burden and financial responsibility of detecting environmentally harmful pesticide concentrations to NPDES permit holders and other dischargers. Through the “no toxics in toxic amounts” provision of the Clean Water Act, dischargers must demonstrate that effluents and receiving waters are not exhibiting toxicity using the previously mentioned species and endpoints. Having access to reliable acute and chronic toxicity results using these same methods, species, and procedures provided at the time of pesticide registration or registration review will allow dischargers to more effectively “rule in” or “rule out” currently used pesticides when chronic toxicity triggers and/or limits are exceeded.

POTWs Testing Costs

NPDES dischargers are required to conduct regularly scheduled acute and chronic toxicity bioassays. The frequency of routine bioassay testing varies from permit to permit, but they are generally conducted at approximately monthly intervals with an average cost of $500 and $1,000 for each acute and chronic test respectively. These toxicity tests are conducted in addition to chemical-specific monitoring to assess potential aquatic life impacts associated with unregulated chemicals, chemical combinations, and substances that do not have established water quality criteria thresholds. If toxicity is observed during routine testing, dischargers are typically required to conduct accelerated tests weekly for a minimum of six weeks at an additional cost of approximately $3,000 to $6,000 depending on the test. If toxicity is observed in two or more of the weekly accelerated tests, the discharger would be required to implement a toxicity identification evaluation (TIE). TIEs consist of multiple toxicity tests conducted with multiple sample manipulations in order to characterize and eventually identify the toxicity causing constituent(s). The cost of a TIE can vary widely from $10,000 to well over $100,000 depending on complexity and persistence of the toxicant. Once identified the cost to treat or remove the toxicity causing compound(s) can vary dramatically.

POTWs Costs for Non-Compliance

In addition to the adverse environmental impacts, non-compliance with Clean Water Act requirements can be extremely costly for POTWs. Costs are incurred for identifying the source of the pollutants causing non-compliance, source control to

reduce impacts of the pollutants, and construction, operation, and maintenance costs to upgrade POTWs with advanced treatment to remove pollutants that cannot be adequately reduced with source control. Also, when surface water bodies become impaired by pesticides, POTWs discharging to the water bodies can be impacted through additional requirements established as part of Total Maximum Daily Loads (TMDLs) set for the water bodies by regulatory agencies. In California, this would entail the California State Water Resources Control Board and the Regional Water Quality Control Boards. The cost to POTWs to comply with TMDLs can be up to millions of dollars per water body per pollutant.

Conclusion

Tri-TAC member agencies need EPA's assistance to protect surface water from contamination from pesticides. POTWs are required by NPDES permits to meet effluent toxicity standards; however POTWs do not have the authority to regulate pesticides. As detailed above, when toxicity problems occur, they can be very costly for POTWs. Tri-TAC requests that acute and chronic aquatic toxicity testing data using the more pesticide-sensitive species and endpoints be required during the registration and registration review processes. These data are necessary to scientifically evaluate pesticides and ensure that pesticides will not cause unreasonable adverse effects on the environment.

Tri-TAC appreciates the opportunity to provide written and verbal comments on the Clean Water Act and Federal Insecticide, Fungicide, and Rodenticide Act Common Effects Aquatic Life Assessment for Pesticides Using Available Data. If you have any questions or require additional information, please contact Ms. Preeti Ghuman by phone at (562) 699-7411, extension 2904, or by email at pghuman@lacsd.org.

Sincerely,

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Chair, Tri-TAC

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