



**DEPARTMENT OF PESTICIDE REGULATION
PESTICIDE REGISTRATION AND EVALUATION COMMITTEE
Meeting Minutes – January 18, 2008**

Committee Members/Alternates in Attendance:

Patti L. TenBrook, U.S. Environmental Protection Agency, Reg. 9 (U.S. EPA)
Martha Harnly, Department of Public Health (CDPH-EHIB)
Barry Wilson, University of California Department of Environmental Toxicology (UCD)
Lynn Baker, Air Resources Board (ARB)
Stella Borucki, Department of Fish and Game (CDFG)
Anna Fan, Office of Environmental Health Hazard Assessment (OEHHA)
Syed Ali, State Water Resources Control Board (SWRCB)
Rebecca Sisco, University of California IR-4 Program
Tobi Jones, Department of Pesticide Regulation (DPR)

Visitors in Attendance:

Brian Bret, Dow Agro Sciences
Denise Webster, DPR
Nan Singhasemanon, DPR
Oleta Melnicoe, Technical Sciences Group
Jeanne Martin, DPR
Nasser Dean, Western Plant Health Assn.
Roberta Firoved, CA Rice Commission
Paul Hann, Central Valley RWQCB
Kathleen Haley, Inside CAL/EPA-newsletter
Jim Wells, Environmental Solutions Group
Angela Csondes, ARB
Sue Edmiston, DPR
Mark Robertson, DPR
Ann Prichard, DPR
Marshall Lee, DPR
Dennis Patzer, Structural Pest Control Board

1. Introductions and Committee Business - Tobi Jones, Chairperson, DPR
 - a. About 25 people attended the meeting.
 - b. There were no corrections to the minutes of the previous meeting held on November 16, 2007.
2. Department of Pesticide Regulation's Evaluation of Antifouling Paint Pollution in California – Nan Singhasemanon, Environmental Monitoring Branch

There are about 170 antifouling paint (AFP) products currently registered with DPR. More than 90 percent of these products contain copper active ingredients. Booster biocides are frequently co-formulated with copper to enhance the effectiveness of these pesticides.



In recent years, several environmental assessment studies have been conducted in California (CA). The most significant of these was a multi-regional study conducted by DPR with supplemental funding from SWRCB. This study assessed many water quality constituents considered to be indicators of AFP pollution in 23 marinas throughout the State.

Median dissolved copper concentrations in the marinas were higher than respective values for local reference sites. The difference was statistically significant among the 15 salt-water marina areas. California Toxic Rule (CTR) chronic standards (3.1 ppb) for copper were exceeded in most of the salt-water and brackish water marinas. Many of those also exceeded the higher acute standard (4.8 ppb). In fresh water marinas, CTR standards were rarely exceeded. Particularly elevated concentrations of dissolved copper were documented for South and Central Coast marinas. Moderate levels were observed in the San Francisco Bay Area marinas. When marina source surveys and boat leaching estimates were considered, it is likely that boat AFPs are the major source of copper, particularly in salt-water marinas during dry periods.

Other findings from the study include:

- Some marina water samples were toxic to test organisms. Evaluation of toxicity points to copper as the most likely cause.
- Zinc concentrations were noticeably higher in marinas than local reference sites; however, zinc levels were always below CTR standards for zinc. Moreover, AFP sources of zinc may not be the predominant source of the metal in marinas.
- Irgarol and its major breakdown product – M1 were ubiquitous, sometimes at concentrations that could have sub-lethal effects on aquatic plants and algae.

Copper results from the DPR study were very similar to those found in three other CA studies conducted at marina sites between Lower Newport Bay and the United States (U.S.)/Mexico Border. An interesting observation made from these studies showed that water column toxicity did not occur when dissolved copper concentrations were just above the standard threshold, but rather when levels were higher at the 9-10 ppb range. Monitoring for copper on the East Coast and in Europe showed similar observations of elevated copper levels in areas of high boating activity. Three ecological risk assessments (one in U.S. and two in Europe) determined that copper generally poses low levels of risk to aquatic life although higher probability of risks were noted for areas of high boating activity.

Booster biocides that are currently used in CA may also pose risks to aquatic life. Zinc pyrithione and its copper transchelation by-product are highly toxic to aquatic organisms. A predictive model endorsed by U.S. EPA shows that a low level of adoption of this biocide could result in water column levels that approach toxicity thresholds. There is a noticeable rise in the number of zinc pyrithione products entering the DPR registration

process. Another biocide, Irgarol, has been noted by U.S. EPA as potentially posing a risk to aquatic plant and algae. Irgarol is detected in the U.S. at concentrations that could affect aquatic primary producers and their consumers. Sea-Nine is a biocide that is used in only a few AFP products and is considered to be relatively friendly to the environment. It is fairly short-lived and does not bioaccumulate. However, recent research showed that it could be toxic at an extremely low level to certain aquatic invertebrates. Moreover, Environmental Monitoring Branch believes that previous modeling efforts could have significantly under-predicted water column levels. There are no water quality standards established for these booster biocides and there is very little monitoring data available in CA to help determine if water quality impacts exist. The use of these biocides may significantly increase in the near future as a result of the current scrutiny on copper AFPs.

In December 2007, DPR announced plans to pursue the reevaluation of all AFPs and to continue working with stakeholders to identify and evaluate mitigation possibilities.

3. Lake Davis 2007 Treatment

Stella Borucki, Department of Fish and Game, Pesticide Investigations Unit

Lake Davis was chemically treated in September 2007 to eradicate the non-native invasive species northern pike. The reservoir had been previously treated in 1997 but the fish had been re-introduced or may not have been completely eliminated. The pesticide used was CFT Legumine, which has rotenone as the active ingredient.

The project posed challenges, both technical and involving public relations. One technical challenge was treating upper tributaries which were non-continuous because of a dry year but still served as good pike habitat. These tributaries were treated twice. The second treatment only killed one fish, indicating that the first treatment had been effective. Public relations were important because the 1997 treatment had been met with extensive local opposition. Public relations were improved during the 2007 treatment by involving local groups and by trying alternate eradication means prior to chemical treatment.

Monitoring of chemical constituents was implemented with the cooperation of the Department of Public Health. The goal was to determine when the reservoir would be open for public contact and to ensure that project chemicals reached target concentrations in the reservoir. The formulation used for the 2007 treatment contained some inert ingredients that were not used in the 1997 treatment. These new ingredients did not persist as long as piperonyl butoxide, which was present in the 1997 treatment and persisted for several months.

Early indications are that the treatment was successful in eradicating pike. Project chemicals reached target levels and live fish placed in cages throughout the reservoir died

during the project. Post-project monitoring has yielded no pike or trout (which has similar sensitivity to rotenone as pike).

4. Volatile Organic Compound (VOC) Regulations
Randy Segawa, Environmental Monitoring Branch

The State Implementation Plan (SIP) for ozone requires DPR to track and reduce VOC emissions from pesticides in five nonattainment areas. DPR estimates and tracks VOC emissions based on pesticide use report data, lab data on the VOC content of pesticide products, and field emission data for fumigants. Three of the five nonattainment areas currently do not meet the reduction obligations in the SIP. DPR has developed regulations to obtain the needed reductions by controlling fumigant emissions. (These regulations have gone into effect since the PREC meeting.)

The regulations contain five major elements. First, pest control businesses must have at least one person certified in the new licensing sub-category for fumigation. Second, only "low-emission" fumigation methods can be used during May - October in the three nonattainment areas that need additional reductions. Third, pesticide use reports for fumigations in the five nonattainment areas must include the specific method of fumigation. Fourth, DPR must implement a fumigant limit for a nonattainment area if emissions exceed a trigger level. DPR will implement a fumigant limit for the Ventura nonattainment area in 2008, and likely in the San Joaquin Valley and Southeast Desert nonattainment areas in 2009. The fumigant limits are enforced through "emission allowances" included as a condition on restricted materials permits for each grower. Fifth, DPR must publish an annual report containing the latest emission estimates and any needed fumigant limits.

5. Update on Reevaluation – Denise Webster, Registration Branch.

Chloropicrin

- DPR required registrants to conduct and submit worker exposure studies and air quality monitoring studies from field and greenhouse applications.
- Data received. All of the data and information will be used in the risk assessment of chloropicrin, which DPR anticipates submitting for external peer review in the second quarter of 2008.

Diazinon

- Supplemental labeling was established to mitigate off-site movement.
- In February 2007, DPR received information indicating diazinon concentrations measured during the 2006 dormant spray season were still exceeding WQC. In May, the registrant responded to the Departments request to develop further mitigation measures as a result of the sampling performed during the 2006 dormant spray season by proposing to do the following:

- Work with Coalition for Urban/Rural Environmental Stewardship (CURES) to develop a current and historical diazinon-sampling database searchable by chemical and sample location to identify “hot spot” areas where the exceedances have occurred during dormant spray season in the Sacramento and San Joaquin River watersheds.
- They propose to work through CURES to provide growers with educational materials prior to dormant spray applications to describe the new dormant orchard spray regulations and offer best management practices specific to diazinon use as a dormant spray.

Chlorpyrifos

- In February 2007, the manufacturer submitted an acceptable monitoring plan which includes the Delta, East and West San Joaquin watersheds. Additionally, the manufacturer will investigate how chlorpyrifos from granules is getting into surface waters by looking at application methods and use patterns and develop best management practices specific to granule applications in the central coastal valleys.
- The final report from the monitoring at the specified sampling locations and an evaluation of chlorpyrifos detections versus use patterns is due to DPR by the first quarter of 2008.

Cyfluthrin

- During the reevaluation, the registrant submitted numerous worker exposure studies and respiratory irritation journal articles to DPR. In 2004, the registrant submitted a sweet corn hand harvesting worker exposure study. All of the data and information will be used in the risk assessment of cyfluthrin which DPR anticipates submitting for external peer review by the third quarter of 2008.

Methyl Bromide

- DPR is waiting to determine the effectiveness of the mitigation measures before concluding the reevaluation.

Brodifacoum

- In January 2007, U.S. EPA provided a risk mitigation decision for nine rodenticides which would:
 - Make 2nd generation anticoagulants including brodifacoum, bromadiolone, and difethialone restricted use materials for use by certified applicators.
 - 1st generation anticoagulants (chlorophacinone, diphacinone, and warfarin) and non-anticoagulants (zinc phosphide*, bromethalin, and cholecalciferol) have formulation and package restrictions based on the end user.
 - Labeling improvements to be determined in the near future.

DPR is monitoring EPA’s progress through their Web site “regulations.gov”. In all of the meetings, the SRRD (EPA/Special Review and Reregistration Division) clarified that they are still in the process of reviewing comments and that no decisions have been made in terms of the final mitigation proposal but that their objectives are (1) to decrease risks while still allowing for effective rodent control and, (2) to allow adequate time for the regulated industry to comply with any required mitigation (dated 12/19/07).

Certain Agricultural and Commercial Structural-use Liquid Formulation Pesticide Products (Data Call-in)

- To date, the reevaluation is nearly finished with only a few more submissions to review. DPR anticipates closing this reevaluation by the first quarter of 2008.

The Thermogravimetric Analysis (TGA) data generates “worst-case” lab data and not actual field emissions but it gives us a known value we can utilize in our inventory database for meeting our SIP obligation.

Certain Agricultural and Commercial Structural-use Liquid Formulation Pesticide Products (Reformulation)

- DPR received formal commitments to reformulate for approximately 12 percent of the products.
- DPR exempted 60 percent of the products based on the TGA data demonstrating less than 20 percent emissions.
- The remaining 28 percent chose to submit a detailed explanation as to why their product cannot be reformulated. DPR is evaluating registrants reasoning as to why the product cannot be reformulated.

Pyrethroids

- Update for Group I
 - All required environmental fate studies have been submitted.
 - Two registrants have agreed to generate and submit the necessary environmental fate data.
 - These environmental fate studies will be evaluated to determine if additional studies are needed similar to the Group III active ingredients.
- Update for Group II
 - In January 2007, a registrant with products containing tau-fluvalinate requested a waiver from all of the data requirements for Group II active ingredients based on low use in California.
 - In September 2007, DPR granted the waiver request based on agreement to place label mitigation developed for Group III active ingredients.
 - All registrants with Group II pyrethroids have agreed to place mitigation measures on their labels.
- Update for Group III: Sediment Toxicity Data
 - Registrants of Group III active ingredients formed a data generating task force, called the Pyrethroid Working Group (PWG). Members of the PWG have committed to generate the data necessary to evaluate pyrethroid residues in sediment for those active ingredients in Group III.
 - Sediment analytical method: The PWG submitted an analytical method in February and DPR approved this method in June of this year.

- Aerobic/anaerobic California sediment half-lives: In April, the PWG submitted a study protocol for review and approval. DPR scientists have reviewed their proposal and found it to be acceptable.
- Sediment acute and chronic toxicity: In September, DPR received study protocols for sediment toxicity and was reviewed by California Stakeholders. DPR received comments from the U.S. EPA headquarters, State Water Resources Control Board, Central Valley Regional Water Quality Control Board, UC Davis, UC Berkeley, TDC Environmental, and California Stormwater Quality Association. DPR forwarded those comments to PWG and is eliciting feedback.
- Update for Group III: Off-site Movement and Monitoring
 - In July, the PWG submitted an overview document and two study proposals for ground truthing in urban areas and efficiencies of sediment basins in agricultural settings. DPR received comments from EPA Region 9, State Waterboard, and California Stormwater Quality Association in October 2007. DPR forwarded those comments to PWG and elicited feedback. A meeting is scheduled in the first quarter of 2008 to discuss these further.
 - Monitoring in Publically Owned Treatment Works (POTWs): In August, PWG met with members from Tri-TAC (DPR and the Water Board participated via conference call) whereby Tri-TAC provided information on wastewater treatment processes, and discussed their regulatory issues they face. PWG provided the meeting participants with the pyrethroid properties and likely fate in POTWs. This working group will jointly develop protocols to investigate the fate of permethrin in POTWs.

Preliminary Investigations: Soil Applied Field Fumigants

- VOC emissions for fumigant pesticides based on actual field monitoring data containing one or more of the following active ingredients: methyl bromide, 1,3-dichloropropene, chloropicrin, metam-sodium, metam-potassium, dazomet, and sodium tetrathiocarbonate.

For our emission database, we assumed 100% emissions from fumigants. What our scientists found is that depending on the method of application the emissions are in some cases considerably lower. DPR is proposing to request registrants develop actual field emission data such that DPR can demonstrate emissions reductions as mandated in our court order and SIP obligation.

6. Agenda items for next meeting, Tobi Jones, DPR

The next meeting will be held on Friday, March 21, 2008, in the Sierra Room on the second floor of the Cal/EPA building, located at 1001 I Street, Sacramento, California.

7. Closing Comments - Tobi Jones, DPR

The meeting was adjourned.

