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Date: 4/18/2007 10:10:03 AM
Subject: Comment letter to CVRWQCB re Basin Plan Amendment

April 18, 2007

Via E-Mail
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Via Facsimile and Mail (916) 464-4645

TO: Mr. Joe Korkoski

Mr. Paul Hann

Central Valley Regional

Water Quality Control Board

11020 Sun Center Drive, #200

Rancho Cordova, CA 95670

Re: Dow AgroSciences Comments on March 2007 Public Review Draft Staff Report on the Proposed Basin Plan Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento and Feather Rivers

Pursuant to the March 2007 Public Review Draft Staff Report, Dow AgroSciences ("DAS") submits the attached comments relative to the Central Valley Regional Water Quality Control Board's ("Board") proposed Basin Plan Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for The Control of Diazinon and Chlorpyrifos Runoff into the Sacramento and Feather Rivers ("Basin Plan Amendment").

These comments are submitted on behalf of DAS which has participated, and by this letter is participating, in the public comment period provided for under the Basin Plan Amendment.

There are several significant issues which DAS would like to address relative to the Board's proposed Basin Plan Amendment and TMDL treatment of Chlorpyrifos on the Feather River. DAS has addressed the following concerns at the Public Workshop on the proposed Basin Plan Amendment held on April 2, 2007 and at the subsequent meeting between DAS and Joe Karkoski and Paul Hann from the Board. With this letter, DAS reiterates those concerns.

COMMENT NO. 1. There is an insufficient presence of Chlorpyrifos upon which to justify a new regulatory tmdl

DAS did not object to Chlorpyrifos TMDL listings on the Delta and San Joaquin Rivers because there was evidence that Chlorpyrifos was sufficiently present to justify such action. In contrast, the amount of Chlorpyrifos detected on the Feather River falls well below any reasonable level which would justify a new regulatory TMDL on the Feather River. According to the Basin Plan Amendment, Board staff detected only two Chlorpyrifos exceedances, and one reported at the established objective level, since 1996 and no exceedances since 2004. Those exceedances occurred only in 2003 and 2004 and there have been no such measured levels within the last 3 years.

Specifically, Chlorpyrifos was found to have exceeded the objective on the Feather River but only near its outlet and only on the following dates and in the following concentrations:

1) January 15, 2003 at 19 ng/L; and

2) July 28, 2004 at 51 ng/L.

The one sample reported at the objective level was sampled at the same location as above and on the following date and in the following concentration:

1) January 28, 2004 at 14 ng/L.

Moreover, Board staff found that the above exceedances would not have violated the proposed objective of not more than one exceedance for both the one-hour and four-day objectives within a three year period. Staff Report at p. 40. In addition, not only has there been minimal exceedances of Chlorpyrifos, but according to the Staff Report itself, Chlorpyrifos is now virtually non-existent on the Feather River. Staff Report at p. 34, 39.

DAS believes that subjecting Chlorpyrifos to a TMDL on the Feather River based on this scant data is unjustified for a number of reasons. Other similar pesticides have had more exceedances than Chlorpyrifos in other watersheds yet no TMDLs have been initiated for those chemicals. Additionally, establishing a TMDL for any pesticide based on these two exceedances within the past eleven years would be unprecedented, DAS can recall of no other TMDL being initiated on so little data. Finally, there is no reason to believe that an exceedance at any level of Chlorpyrifos or with the additivity formula is necessarily biologically significant.

As the Board's staff said itself at the Public Workshop, one of the reasons why Chlorpyrifos likely has not been detected since 2004 is due in part to the labeling and spray regulations enacted in that same year. Because those regulatory measures, as the Board's staff has conceded, have prevented Chlorpyrifos from entering the Feather River watershed, there would be no additional value to implementing a TMDL for Chlorpyrifos on the Feather River. Those regulatory measures are having their intended effect and a Chlorpyrifos TMDL would do nothing more than likely impose unnecessary and expensive regulatory requirements on a

number of parties. Additionally, DAS cautions the Board from implementing a TMDL for Chlorpyrifos on the Feather River because such an unnecessarily new regulatory program could have the unintended consequence of causing Chlorpyrifos users in the field to use alternative pesticides which may not have the existing regulatory framework which currently governs Chlorpyrifos and could therefore cause greater environmental harm than the highly regulated Chlorpyrifos.

COMMENT NO. 2. a tmdl may not be initiated until a pesticide's presence in a watershed is established at a minimum threshold

Board staff suggests that it may initiate a TMDL for Chlorpyrifos even though Chlorpyrifos is not present in a concentration which violates the proposed objective and despite the fact that it is virtually non-existent in the Feather River. This is an incredible claim. To follow the staff's reasoning to its logical conclusion would allow it to initiate a TMDL for any chemical whether or not that chemical is even present in a watershed. Thus, under the staff's reasoning, a Regional Water Quality Control Board could expend vast sums of money to initiate a TMDL even though, as here, there is a quantitative lack of data which would objectively justify such an expense.

Instead, there must be some threshold level at which a TMDL may be initiated. That objective threshold must be above the minimal data (2 historical exceedances) upon which the Board's staff relies for its proposed Chlorpyrifos TMDL. Otherwise, the Board's staff could recommend establishing costly TMDLs for chemicals that are non-existent in Central Valley watersheds and which are not currently exceeding objective levels.

COMMENT NO. 3. A TMDL MAY NOT BE INITIATED ON ONE WATERSHED SIMPLY TO CREATE REGULATORY CONSISTENCY WITH ANOTHER WATERSHED

Board staff asserts that one of the reasons to establish a Chlorpyrifos TMDL on the Feather River is to create regulatory consistency with the Basin Plan for the San Joaquin River and Delta. This desire, however, cannot justify establishing a TMDL. As mentioned above, there was sufficient data to support establishing a TMDL for Chlorpyrifos on the San Joaquin River and Delta. Here, however, there is no data showing that Chlorpyrifos is impairing the Feather River and therefore the cost of TMDL implementation cannot be justified.

Establishing a TMDL must be based on a justified need for the regulatory program, not on administrative convenience. The proposed changes to section 3.2 of the Basin Plan regarding load calculations, alternative pesticides, implementation of the waivers, additivity formulas, management plans, and increased monitoring, compel significant increased responsibilities and costs on coalitions, farmers, and water districts, all without justification. Moreover, as discussed in Comment 1, there is no reason to believe that the observed exceedances, or future exceedances, are biologically significant .

COMMENT NO. 4. OBJECTIVE LEVELS FOR CHLORPYRIFOS HAVE ALREADY BEEN ESTABLISHED

Board staff has attempted to justify the proposed TMDL as necessary to establish objective levels for Chlorpyrifos. This argument is meritless. While DAS disagreed with the objective levels established, and continues to disagree with the established levels, the objective levels for Chlorpyrifos have been settled by the Board for several years and have been in the Basin Plan since the San Joaquin River and Delta TMDLs were established. (See Chapter 3.2, Table III-2A.)

COMMENT NO. 5. The Proposed Additivity formula is scientifically unsound

The data set on which the Board's staff relies is insufficient to justify a new TMDL for Chlorpyrifos on the Feather River. Moreover, the proposed additivity formula has substantial scientific defects.

In particular, the proposed additivity formula does not account for the fact that if a chemical is present at low levels where there is no biological influence from that chemical, there is no scientific basis for applying the additivity formula. As DAS urged during the Basin Plan amendments for the San Joaquin River and Delta, there is no scientific support for applying additivity in situations of very low concentrations of a single pesticide. The peer reviewer, engaged by the Regional Board during the San Joaquin River and Delta Basin Plan amendments also pointed out this defect. That expert stated:

While concentrations of co-occurring compounds with identical modes of biochemical action are known to be additive, the appearance of joint toxicity has been shown only to occur above a certain threshold. Thus far for aquatic organisms, co-occurrence of OP insecticides at levels that are scientifically below LC50 do not seem to be additive.

Felsot, A. 2005, A Critical Analysis of the Draft Staff Report, "Basin Plan Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Diazinon and Chlorpyrifos Runoff into the Lower San Joaquin River."

In the Staff Report reference is made to Deener [sic] et al., 1988, a journal article purporting to support the Board's staff position that there is no concentration below which Chlorpyrifos or Diazinon will no longer contribute to the overall toxicity of the mixture[1]. After careful review of this paper, it is obvious that the sweeping conclusion that any compound will contribute to the toxicity of the mixture, even if it is present at an extremely low concentration, is not applicable to the situation under consideration in the Staff Report. First, the chemicals tested in Deneer et al., 1988 are all industrial chemicals with non-specific mechanisms of action eliciting general narcosis effects. In contrast, Chlorpyrifos and Diazinon have specific mechanisms of action related to inactivation of acetylcholinesterase at neural junctions. Second, in their discussion Deneer and co-workers state, ". . . every specific-acting chemical obviously possesses some aneasthetic potency, depending on its hydrophobicity. Under normal circumstances, the concentrations of these chemicals will be too low to cause the biological response through their specific mode of action.

They will however, contribute to the total anaesthetic potency of the mixture." If the Board's staff considers Chlorpyrifos and Diazinon to have significant anaesthetic potency important in this regulatory context, DAS requests the evidence be presented as we are not aware of any such data.

Thus, when either Chlorpyrifos or Diazinon are present only in very low concentrations, there is no basis to apply the proposed additivity formula.

DAS again comments that the selection of a numeric water quality criteria as the denominator in the additivity formula is not supported by general principles of toxicology. Additivity expressions generally compare endpoints obtained from testing on the same organism[2], not derived values such as numeric criteria which may or may not be comparable, since they probably come from different sets of test species.

COMMENT NO. 6. Proposed changes

DAS does not believe the proposed water quality objectives for Chlorpyrifos as provided in Basin Plan 3.1, Table III-2A are appropriate. In addition, DAS objects to the Board initiating a new formal TMDL for Chlorpyrifos on the Feather River. DAS, therefore objects to the proposed amendments as discussed in the second paragraph of Comment No. 3.

Sincerely,

William J. Thomas, Jr.

for BEST BEST & KRIEGER LLP

WJT:CJC:aw

cc: Dow AgroSciences

Bryan Stuart (Via E-Mail Only)

Nick Poletika (Via E-Mail Only)

[1] Deneer, J.W., Sinnige, T.L., Seinen, W. Herments, J.L.M. 1988. The joint acute toxicity to Daphnia magna of industrial organic chemicals at low concentrations. Aquatic Toxicol 12:33-38.

[2] Lloyd, R. 1987 Special tests in aquatic toxicity for chemical mixtures: interactions and modification of response by variation of physicochemical conditions. Pages 491-507 in Methods for Assessing the Effects of Mixtures of Chemicals, ed. by V.B. Vouk, G.C. Butler, A.C. Upton, D.V. Parke and S.C. Asher. Scientific Committee on Problems of the Environment, SCOPE 30, John Wiley & Sons, New York.

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