

ITEM: 9

SUBJECT: Amendment 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

BOARD ACTION: *Consideration of Adoption of Proposed Amendment and Filing of a Draft Environmental Document*

BACKGROUND: In 2003, the Board adopted a Basin Plan Amendment to address diazinon in the Sacramento and Feather Rivers. The proposed Amendment corrects the diazinon water quality objectives based on new information not available to the Board in 2003. The proposed Amendment also addresses the presence of chlorpyrifos through the adoption of water quality objectives. Since diazinon and chlorpyrifos act in an additive fashion, the loading capacity of the Sacramento and Feather Rivers is established to take into account the co-occurrence of diazinon and chlorpyrifos. The loading capacity and associated allocations address Clean Water Act Total Maximum Daily Load (TMDL) requirements.

Board staff has developed a Basin Plan Amendment and staff report to address diazinon and chlorpyrifos discharges into the Sacramento and Feather Rivers. Two California Environmental Quality Act (CEQA) scoping meetings and an additional public workshop have been held during the development of this Basin Plan Amendment to identify and address issues regarding the amendment. The proposed Basin Plan Amendment and staff report are available on our website at:

[http://www.waterboards.ca.gov/centralvalley/programs/tmdl/sac\\_feather\\_diaz/index.html](http://www.waterboards.ca.gov/centralvalley/programs/tmdl/sac_feather_diaz/index.html)

The proposed Basin Plan Amendment is largely based upon the technical and policy framework established in recently adopted Basin Plan Amendments addressing diazinon and/or chlorpyrifos in the Sacramento and Feather Rivers, the San Joaquin River, and the Delta, (Central Valley Water Board Resolutions R5-2003-0148, R5-2005-0138 and R5-2006-0061, respectively). Two of the Amendments (the Sacramento and Feather Rivers amendment, and the San Joaquin River amendment) have received U.S. EPA approval. The Delta Amendment will be considered by the State Water Board in May 2007.

Monitoring since the early 1990s by State and federal agencies and other groups has confirmed the presence of diazinon and chlorpyrifos at levels of concern in the Sacramento and Feather Rivers. The Sacramento and Feather Rivers are currently listed on the Clean Water Act Section 303(d) List based on the non-attainment of narrative objectives due to diazinon (Sacramento

and Feather Rivers) and chlorpyrifos (Feather River). The sources of these compounds are agricultural and urban runoff. Agriculture is the dominant source since the United States Environmental Protection Agency (U.S. EPA) has banned the sale of all non-agricultural uses of diazinon and most non-agricultural uses of chlorpyrifos.

The 2003 Basin Plan Amendment (Resolution R5-2003-0148) defined the loading capacity and allocations for diazinon, which addressed U.S. EPA TMDL requirements. In establishing the TMDLs and program of implementation, the Central Valley Water Board also established new water quality objectives for diazinon. The compliance date associated with these water quality objectives is June 30, 2008.

The 2003 Basin Plan Amendment included the requirement to review the diazinon allocations and the implementation provisions in the Basin Plan at least once every 5 years, beginning no later than June 30, 2007. In addition to the Basin Plan requirements, a review of the water quality objectives has also been incorporated into a judgment denying a writ, issued on 22 July 2005 by the Sacramento County Superior Court (Makhteshim Agan of North America (MANA) v State Water Resources Control Board; Regional Water Quality Control Board-Central Valley Region, Sac. Cty. Sup. Ct. - Case No. 04CS00871).

**Designated Uses** - This Basin Plan Amendment recommends that no changes be made to existing designated uses for the Sacramento and Feather Rivers. The use that is most sensitive to diazinon and chlorpyrifos (freshwater habitat beneficial use designation) has already been designated.

**Water quality objectives** – This Basin Plan Amendment recommends revising the diazinon water quality objectives and adopting new water quality objectives for chlorpyrifos. The proposed diazinon and chlorpyrifos objectives are identical to those adopted by the Central Valley Water Board for the San Joaquin River and Delta. The water quality objectives were derived using the U.S. EPA water quality criteria derivation methodology as applied to datasets screened by the California Department of Fish and Game (CDFG).

The proposed change to diazinon would increase the current objective to approximately twice the existing objective. The change to the diazinon water quality objective is required to address new information made available since the existing water quality objective was adopted. The change has been reviewed against current antidegradation policy and is found to be consistent.

**TMDL Elements** – The amendment contains all the elements of a Total Maximum Daily Load (TMDL), satisfying the U.S. EPA Clean Water Act requirements. The TMDL elements are identical to those adopted for the San Joaquin River and Delta. This Basin Plan Amendment establishes the loading capacity, waste load allocations, and load allocations for diazinon and chlorpyrifos discharges to the Sacramento and Feather Rivers. The loading capacity and allocations are established at levels necessary to attain the applicable numeric and narrative water quality objectives within the Sacramento and Feather Rivers. A combined additive toxicity formula, previously adopted in the Basin Plan, is used to set a loading capacity that accounts for the combined toxicity of diazinon and chlorpyrifos. Equating the allocations to the loading capacity provides an implicit margin of safety, since no dilution credit is given. Since the loading capacity, load allocations and wasteload allocations are not dependent on a particular flow regime, they would not be changed by changes in flows within the Sacramento and Feather Rivers.

**Implementation and Time Schedule** - This Basin Plan Amendment is structured to be implemented through existing Central Valley Water Board regulatory programs. The Irrigated Lands Conditional Waiver will address agricultural sources of diazinon and chlorpyrifos discharges, and the NPDES permit programs will address any stormwater or treatment plant sources of diazinon and chlorpyrifos. A conditional prohibition is kept as a regulatory backstop for dischargers not covered by waste discharge requirements or waiver of waste discharge requirements.

Current data indicates that the Sacramento and Feather Rivers appear to be meeting the proposed water quality objectives. With recent changes in the diazinon labeling and the new California Department of Pesticide Regulation (DPR) dormant spray regulations, the loading capacity should be met by the time the Basin Plan Amendment is approved by the U.S. EPA. Therefore, the compliance date for both diazinon and chlorpyrifos is proposed to coincide with the U.S. EPA approval of the Basin Plan Amendment.

**Submission of Management Plans** – The Amendment requires that dischargers submit a management plan that describes the actions that the discharger will take to reduce diazinon and chlorpyrifos discharges and to meet the applicable allocations.

**Surveillance and Monitoring** - Surveillance and monitoring required of dischargers will include water quality monitoring, evaluation of changes in pesticide use, surveys of adoption of management practices to reduce diazinon and chlorpyrifos in

runoff, and evaluation of the effectiveness of the management practices in reducing pesticide runoff.

**Consideration of Economics** - The total costs of implementation of this amendment are estimated to range from \$0.3 million to \$7.7 million. This includes cost for implementing management practices for the reduction of pesticide runoff, compliance monitoring, planning and evaluation. These costs are likely a high-end estimate because they assume that all dischargers will be required to implement additional pesticide management practices. Since data indicate compliance with the proposed objectives, implementation of additional management practices is not expected. The estimated costs do not account for the redundant nature of the costs of compliance with this amendment with costs required for compliance with existing Basin Plan objectives, the Irrigated Lands Conditional Waiver, and pesticide use regulations from the Department of Pesticide Regulation. These estimated costs are all for agricultural dischargers. Due to the phase-out of almost all non-agricultural uses of these pesticides, no costs are projected to occur for NPDES permit holders as a result of this amendment.

**California Environmental Quality Act (CEQA)** - This Basin Plan Amendment does not require or allow any changes in pesticide application practices that could degrade the quality of the environment, or have environmental effects that could cause indirect or direct adverse effects on human beings.

**Peer Review** - Staff has determined that the scientific portions and scientific basis of the proposed Amendment to control discharges of diazinon and chlorpyrifos into the Sacramento and Feather Rivers are based on source material that has already been peer reviewed. The proposed Amendment is itself just a new application of earlier, adequately peer reviewed work products, specifically, the 2005 San Joaquin River and 2006 Basin Plan Amendments to Control Diazinon and Chlorpyrifos. The proposed amendment does not depart from the scientific approach of the other Basin Plan Amendments from which it is derived. Therefore, the proposed amendment has already satisfied the peer review requirement of HSC 57004 and, therefore, does not require additional peer review. The State Board's peer review coordinator has been consulted on this decision and has concurred with staff's assessment. Comments from the peer review of the previous basin plan amendments have been reviewed and incorporated, or an explanation has been given for why staff disagrees with the peer review comment.

**ISSUES:**

Dow Agro has argued against the direct use of the Basin Plan's additivity formula to address diazinon and chlorpyrifos in the Delta. The pesticide manufacturer argued that the additivity formula

should not be used for “low” levels of diazinon and chlorpyrifos. Scientific evidence suggests that since diazinon and chlorpyrifos have the same mode of toxic action, any concentration of either of these pesticides has the potential to contribute to a toxic effect. Therefore the use of the additivity formula is appropriate in this case.

MANA has suggested that the Board adopt the USEPA’s recently released water quality criteria for diazinon. The USEPA diazinon criteria are somewhat higher than the proposed diazinon water quality objectives. Both sets of criteria were generated using the standard USEPA methodology. The difference is due to the toxicity study data sets used in generating the criteria. Staff believes the California Department of Fish and Game data set used to generate the proposed objectives is more appropriate. The CDFG data set was generated using more stringent criteria for inclusion of toxicity studies. Two of the toxicity studies used by USEPA were of questionable quality and were not used to derive the proposed objectives. The CDFG data set also included key studies on chronic effects not included in the USEPA data set.

These issues do not reflect the written comments submitted, which are due on 18 April 2006.

RECOMMENDATION: Adopt the proposed Basin Plan Amendment.

Mgmt. Review \_\_\_\_\_  
Legal Review \_\_\_\_\_

**3/4 May 2007**  
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